Research and Development

Research and Developement Procedures Manual

Fisheries and Oceans Canada
Coast Guard

Pêches et Océans Canada
Garde côtière

Canada

101-06866/

Canadian Coast Guard
La Garde côtière canadienne

PUBLICATION DATA FORM

1. Publication No. ISBN-0-662-29810-1	2. Project No.	3. Recipient's Catalogue No.

4. Title and Subtitle Canadian Coast Guard 2001 - Research and Development Procedures Manual	5. Publication Date January 2001
	6. Performing Organization Doc.#
7. Author(s) CCG Project Managers;	8 DFO File No. AWAM-2204-6819-Y2K1
9. Performing Organization Name and Address Fisheries and Oceans, Canadian Coast Guard Research and Development 200 Kent Street, 5th Floor Ottawa, Ontario K1A -0E6	10. PWGSC File No. NA
	11. PWGSC or DFO Contract No: NA
12. Sponsoring Agency Name and Address Same	13. Type of Publication andPeriod Covered Procedures Manual
	14. Sponsoring Agency Code NA
15. Supplementary Notes	16. Project Officer Wayne Ellwood

17. Abstract

The 2001 Canadian Coast Guard Research and Development Procedures Manual provides direction to all CCG project managers and administrative officers responsible for planning, contracting and reporting of research and development projects.

18. Key Words Canadian Coast Guard, Research and Development, R&D, Procedures , Manual	19. Distribution Statement Standard distribution includes internal personnel, related personnel in other departments, and the public (on request)

20. Security Classification (of this publication) unclassified	21. Security Classification (of this page) unclassified	22. Declassification (date)	23. No. of pages 215	24. Price N/A

RESEARCH AND DEVELOPMENT

PROCEDURES MANUAL

FOREWORD

This edition of the R&D Procedures Manual, is a guide for CCG project managers and administrative officers who are responsible for the planning, contracting and reporting of research and development (R&D) projects.

This new edition of the manual supersedes information previously contained in the *R&D Procedures Manual, November 1997*

The R&D process, by its very nature, is dynamic. Procedures will change in response to the changes in the research and development world and organizational restructuring within the CCG. It is the intent of this manual to update existing processes to reflect new organizational factors.

Officers are encouraged to recommend improvements to the process and identify procedures where clarity or enhancement would be advantageous.

All queries and suggestions relating to this manual should be addressed to:

Research and Development Office
Canadian Coast Guard
Telephone: (613) 990-3087
Fax: (613) 991-2473

Issued by:
The Canadian Coast Guard Research and Development Office
January 31, 2001

SUGGESTED CHANGES OR IMPROVEMENTS
to
RESEARCH AND DEVELOPMENT 2001 PROCEDURES MANUAL

To:

CCG R&D Office
Marine Programs
Planning and Performance Measurement

Date: ______________________

From:

I would like to propose the following changes/improvements to the R&D Procedures Manual.

Section	Page	SUGGESTED CHANGE

____

Printed Name, Signature and Title

Table of Contents

---

1. R&D PROGRAM 1-1
  1.1 INTRODUCTION 1-1
  1.2 R&D PLANNING 1-1
    1.2.1 CCG Strategic R&D Directives 1-1
    1.2.2 Fiscal Year Plans - CCG R&D Plan 1-2
    1.2.3 CCG Business Lines / Service Lines 1-2
  1.3 EXTERNAL SUPPORT FOR CCG's R&D PROGRAM 1-2
    1.3.1 Transport Canada - Transportation Development Centre (TC-TDC) 1-2
    1.3.2 Program for Energy R&D (PERD) 1-3
    1.3.3 Climate Change Action Fund (CCAF) 1-3
    1.3.4 New SAR Initiative Fund (NIF) 1-3
    1.3.5 Canada Space Plan (CSP) 1-4
  1.4 OTHER R&D PROGRAMS 1-4
    1.4.1 Networks of Centers of Excellence (NCE) - GEOIDE 1-4
    1.4.2 NR-Can GeoConnections Program 1-4
    1.4.3 International and Inter-Governmental Programs 1-5

2. ROLES AND RESPONSIBILITIES 2-1
  2.1 INTRODUCTION 2-1
  2.2 DFO/CCG R&D COMMITTEES 2-1
    2.2.1 CCG R&D Committee 2-1
    2.2.2 CCG R&D Project Initiation and Implementation 2-2
    2.2.3 PERD Panel 2-2
  2.3 CCG R&D PROGRAM - ROLES AND RESPONSIBILITIES 2-2
    2.3.1 R&D Coordinator 2-2
    2.3.2 Project Manager 2-3
    2.3.3 CCG R&D Office 2-4
    2.3.4 Business Planning Office 2-4

3. CCG ANNUAL R&D APPROVAL PROCESS 3-1
  3.1 INTRODUCTION 3-1
  3.2 REQUEST FOR R&D PROJECT PROPOSALS 3-1
    3.2.1 Project Justification Form (PJ) 3-2
  3.3 CONSULTATIONS 3-4
    3.3.1 Consultation between Headquarters and Regional Offices 3-4
    3.3.2 Consultations between CCG and External Performers 3-4
    3.3.3 Consultation with CMAC/Industry 3-5
    3.3.4 R&D Plan Approval 3-6
    3.3.5 Delegation Documentation 3-7
    3.3.6 CCG R&D Plan 3-7
    3.3.7 Year-end Status Reports and CCG Annual R&D Report 3-7
    3.3.8 Performance Measurement and Program Review 3-8
  3.4 DELEGATION OF FUNDS 3-10
    3.4.1 Introduction 3-10
    3.4.2 CCG R&D Funds 3-10
    3.4.3 TDC Funding 3-10
    3.4.4 PERD Funding 3-11
    3.4.5 Interdepartmental Funding 3-11

Table of Contents

3.5 CURRENT YEAR PROJECT APPROVAL/AMENDMENT PROCESS 3-11
3.5.1 General 3-11
3.5.2 "New Project" Approval 3-11
3.5.3 Project Amendment Approval 3-12
3.5.4 Reallocation of R&D Funds between Branches/Regions 3-13

4. R&D PROJECT AND PUBLICATION REQUIREMENTS 4-1
4.1 INTRODUCTION 4-1
4.2 GENERAL R&D EXPENDITURE & STATUS REPORTING REQUIREMENTS 4-1
4.2.1 Status Report Forms 4-1
4.3 GENERAL R&D PUBLICATION REQUIREMENTS 4-2
4.3.1 Request DFO Document Number 4-2
4.3.2 Publication Data Form 4-3
4.3.3. ISBN Numbering 4-3
4.3.4. Translation Services for CCG R&D Publications 4-3
4.3.5 DFO Library Retention Service 4-3
4.3.6 CCG Web Sites 4-3
4.4 CCG ANNUAL R&D REPORT 4-3
4.5 CCG R&D PLAN 4-3

5. R&D CONTRACTING & PROJECT MANAGEMENT PROCESSES 5-1
5.1 INTRODUCTION 5-1
5.2 R&D CONTRACTING RESPONSIBILITIES 5-1
5.2.1 Project Manager 5-1
5.2.2 Materiel, Contracting & Facility Management, Contracting Services 5-1
5.2.3 Public Works & Government Services Canada (PWGSC) 5-2
5.3 THE CONTRACTING PROCESS 5-3
5.3.1 Phase 1: Requirements Definition 5-3
5.3.2 Phase 2: Contracting Activities 5-4
5.3.3 Phase 3: Contract Administration (Project Management) 5-4
5.3.4 Phase 4: Post-Contract Phase 5-5
5.4 LETTERS OF AGREEMENT - EXTERNAL PARTNERS 5-6
5.5 INTERNATIONAL CONTRACTING 5-6
5.6 INTELLECTUAL PROPERTY (IP) 5-6
5.6.1 Exception to Contractor Ownership of Intellectual Property (IP) 5-6
5.6.2 Procedures for the Use of Exceptions 5-6
5.7 DISCLOSURE ON INVENTIONS BY PUBLIC SERVANT 5-7
5.8 SOLE SOURCE 5-8
5.9 PARTNERING AND JOINT-VENTURES 5-8

6. INTERNATIONAL COOPERATION 6-1
6.1 PURPOSE 6-1
6.2 PROCEDURES 6-1
6.3 FUNDING 6-2

7. PROGRAM ON ENERGY RESEARCH AND DEVELOPMENT (PERD) 7-1
7.1 INTRODUCTION 7-1
7.2 OBJECTIVES AND PRINCIPLES 7-1

Table of Contents

7.3 **STRUCTURE** 7-2
7.4 **PROCESS** 7-2
  7.4.1 Strategy 7-2
  7.4.2 Planning 7-2
  7.4.3 Project Review 7-2
  7.4.4 Timetable 7-3
7.5 **PANEL** 7-3
  7.5.1 Purpose 7-3
  7.5.2 Membership 7-3
  7.5.3 Responsibilities and Activities 7-3
7.6 **OFFICE OF ENERGY RESEARCH AND DEVELOPMENT** 7-4
7.7 **PROGRAMS AT OBJECTIVE LEVEL (POL) COMMITTEES** 7-4
7.8 **PERD ACTIVITY TIMETABLE - ANNUAL PLANNING CYCLE** 7-5
7.9 **PROPOSAL AND REPORT PREPARATION** 7-6
  7.9.1 Procedures 7-6
  7.9.2 General Information 7-6
7.10 **BUDGET DELEGATION** 7-9
  7.10.1 Project Approval 7-9
  7.10.2 Delegation of Funds 7-9

Table of Contents
(Appendices)

APPENDIX	SECTION TITLE
A	CCG R&D Project Justification Form and IP Schedule
B	Budget Transfer Form
C	R&D Status Report Form
D	Letter of Agreement
E	Joint Research Project Agreement (JRPA)
F	CCG/TDC Client Agreement
G	Preparation of Contract Work Statements
H	Intellectual Property Policy (IP)
I	CCG R&D Project Report Publication Data Form
J	DFO Library Retention Service
K	List of PERD Programs at Objective Level (POLs)
L	Strategic Vision
M	CCG Business Lines / Service Lines / Coding
N	Glossary of Abbreviations
O	Invention Disclosure Form
P	Project Screening Criteria
Q	Project Selection Criteria
R	Request for Proposal and MERX™
S	Statement of Work
T	Selection Methods and Bid Evaluation
U	Contract Performance Evaluation Report

1. R&D PROGRAM

1.1 INTRODUCTION

Federal departments and agencies use research and development to solve specific operational and technical problems, and to develop new knowledge. Within the Canadian Coast Guard (CCG), Research & Development (R&D) is an integral part of CCG's effort to respond to its strategic challenges and to improve the cost effectiveness of its operations by developing new technologies, improving existing technologies and improving the "human factors" element for CCG personnel.

CCG's research activity also promotes Canadian industry through contracting-out, technology transfer agreements, joint-ventures and joint product development.

Funding for the CCG R&D program is obtained (primarily) from the CCG O&M budget. The CCG also benefits from R&D funds assigned to marine projects from other departmental and interdepartmental R&D programs such as the Program for Energy R&D (PERD), the National Search and Rescue's New SAR Initiative Program (NIF) and emerging programs such as the Canada Space Plan (CSP), Government on Line (Goole), and the Climate Change Action Fund (CCAF).

Within the CCG's new organizational structure (effective April 03, 2000), the overall R&D program is administered by the CCG R&D Office. The CCG R&D Plan is reviewed by the CCG R&D Committee and presented to the Management Board for approval by the Commissioner or his designate. The Planning and Resource Allocation Committee (PRAC) will also be involved in the review of the CCG R&D Program.

R&D projects are identified by the various program and program delivery groups, at Headquarters or in the regions. Technical research projects are addressed to the ITS group for project delivery. Technical projects are identified as those that could lead to the acquisition of new assets, or affect the material condition of existing assets. If necessary, ITS will contract with a third party for the requisite expertise and/or capacity. Operational or management related research projects (ie: non-technical) may be initiated and managed throughout the CCG. The end product of technical research projects will be incorporated into the life cycle management planning for capital acquisitions. The end product of operational or management-related research projects is implemented and/or communicated by the service delivery unit responsible for its initiation.

1.2 R&D PLANNING

1.2.1 CCG Strategic R&D Directions

Each fiscal year, CCG Branches/regions with program and/or service delivery responsibilities develop individual statements of future direction through their Business Plans, and against the background of the CCG Strategic Directions document. R&D projects are subsequently developed (updated) to meet the technological or knowledge gaps, between the current level of understanding and that which is required to meet the needs of the new business plan. Collectively, these statements of direction highlight the technological challenges/opportunities anticipated and illustrate the changes/improvements required in order to fulfill the CCG's major program commitments. The R&D plan comprises those project proposals required to solve the technological barriers to program change over a 10 to 15 year horizon. The

0

plan is a mix of technological gaps and longer term challenges that must be addressed in order to assure an orderly evolution of the overall program over the immediate planning horizon.

The R&D Plan, itself, is a large reflection of those issues which must be addressed within the organization's current planning horizon (3-5 years).

1.2.2 Fiscal Year Plans - CCG R&D Plan

Each July, branches and regions develop new R&D project proposals for the forthcoming fiscal year. The projects which are proposed for the CCG plan reflect operational priorities of the branch/region and are driven by CCG's Strategic Directions document. The scope of the plan reflects the expected resourcing levels and leverage funding available.

Branch R&D activities include all R&D projects in which the branch is involved, including those wholly or partially funded by other sources such as NIF, Green Plan or TDC.

1.2.3 CCG Business Lines / Service Lines

All DFO sectors receive their funding from Treasury Board and track these resources by business lines and service lines. ***Appendix "M"*** provides a list of the business lines and service lines along with an amplification of each line. This information is entered on the Project Justification Form (PJ) **See *Appendix "A"***.

1.3 EXTERNAL SUPPORT FOR CCG's R&D PROGRAM

The CCG R&D program is much larger than the funding provided through the CCG O&M (Operations & Maintenance) account. CCG, through partnership arrangements, accesses funds for CCG R&D projects from a number of sources. This involves CCG in a much more extensive program than would be possible if funding was only available from internal sources. Project managers should actively pursue leverage funding from industry and other R&D partners.

1.3.1 Transport Canada -Transportation Development Centre (TC-TDC)

The Transportation Development Centre (TDC) is Transport Canada's dedicated research facility. Its R&D program addresses transportation issues of relevance to all of Canada's three major modal groups (marine, surface and air), as well as other business sector interests. The central focus of the TDC's marine technology R&D program is to support Transport Canada's regulatory role. However, issues of design, regulation and safe operation of vessels often overlap with operational concerns. This leaves ample room for shared research initiatives.

CCG consults with TDC each fall to discuss the integration of CCG R&D projects with those issue areas identified by the TDC, with the objective of linking these initiatives over the short, medium and long-term horizons.

Where there is a common interest and TDC has the resources, CCG branches enter into project ***Client Agreements (Appendix "F")*** with TDC, for shared funding, brokerage, project management and/or scientific/authority service.

1.3.2 Program for Energy R&D (PERD)

The federal Program of Energy Research and Development (PERD) began in 1974 and is administered by the Natural Resources Canada (NR-Can), Office of Energy R&D (OERD). The Panel process was initiated in 1975 with the establishment of the Panel and OERD. It has subsequently undergone several modifications, the most recent of which took effect in 1997/98.

Under the new PERD structure, a number (30+) of mini-program areas have been established. These theme areas are called "Programs at the Objective Level" or POLs.

The total PERD fund currently runs at $58 million. Each POL is managed by the department or group within NR-Can with primary interest. The POL leader is responsible to involve all interested players (government, industry, university) in the POL planning activity. POL programs are evaluated periodically to assure ongoing relevance to the NR-Can strategic directions and to current energy policy.

CCG applies to several PERD POL groups for project funding. The objectives of research funded under this program are to improve ship and navigation efficiencies, to support hydrographic services and to improve CCG operational efficiencies and reduce the emission of green house gases from marine sources.

Supplemental information about PERD may be accessed on the PERD web site at `Http://www.nrcan.gc.ca/es/oerd`. Full details of the PERD process and the themes under which the CCG would be most likely to apply for PERD funding are listed in ***Section 7*** and ***Appendix "K".***

1.3.3 Climate Change Action Fund (CCAF)

Priority environmental initiatives, developed in Environment Canada, change over time. In the past, a series of regionally oriented programs were funded. Under the umbrella of "The Green Plan" Environment Canada addressed specific hot spots and contamination issues across Canada. These plans (GLAP, SLAP, MAP) have now been converted to reference level activities. Environment Canada (in cooperation with NR-Can) has now mounted a new initiative to address the reduction of emissions of the six major green house gases. Achievement of Canada's goals to meet specific emission levels, established under the Kyoto Protocol, is the primary goal.

The CCAF is an emerging program. Start-up funding was allocated over a three year period. Renewal of the program is under deliberation by Cabinet.

1.3.4 New SAR Initiative Fund (NIF)

The New Search and Rescue Initiatives Fund (NIF) is a unique undertaking by federal and participating provincial, municipal and private Search and Rescue (SAR) organizations. It's objective is the saving of lives by enhancing SAR prevention and the provision of SAR services. NIF is not specifically oriented to R&D projects but, rather, was established by the federal government to provide funding to new initiatives which enhance the effectiveness of SAR by all participants, especially those outside government.

Over the 5 year horizon 1995-2000, approximately $2.5 million were specifically approved under NIF for marine R&D. The administration of the NIF is undertaken by the Executive Director of the National Search and Rescue Secretariat (NSS) on behalf of the Minister National Defence (LMSAR). Within the CCG, it is managed as a separate program within the Safety and Environmental Response Directorate (SERS). It is noted here solely as a source of funding to external partners.

1.3.5 Canada Space Plan (CSP)

Funded by the Canada Space Agency, the Canada Space Plan funds R&D with a strong "applications" orientation. Funding for all federal "marine" projects runs at approximately one half million dollars annually. This is a reasonably small amount and reflects the current difficulties in mounting near-term applications developments from a space-based platform.

Nonetheless, the Space Agency is interested in promoting new and challenging applications for its space borne sensors on the RADARSAT II satellite. The new satellite systems offer more complex and advanced sensor suites, compared to RADARSAT I, which is still functioning well, but is beyond its projected life span.

Annual requests for proposals arrive via the departmental "space" coordinator in the DFO Science Branch. The CCG R&D coordinating office is invited to participate in this program and has recently begun an awareness program to increase overall interest in advanced technologies for coastal patrol and target identification/characterization.

1.4 OTHER R&D PROGRAMS

1.4.1 Networks of Centres of Excellence (NCE) - GEOIDE

The Department of Industry, supports several initiatives for the development of advanced (enabling) technologies in Canada. One element in the promotion of specially targeted technologies is the Networks of Centres of Excellence (NCE) program. Closely paralleling the activities of the three granting agencies (NSERC, SSHRC, and MRC), the NCE program provides a granting structure to support specific activities through multiple-university (and industry) partnerships. One of the current target activities is the use of "geomatics for improved decision-making" or GEOIDE.

The NCE/GEOIDE structure requires departments to contribute (Grants and Contributions) to the overall program. As a benefit of participation, projects selected for support will be assigned to multiple university researchers (cross-fertilization) and will receive additional support funding from the program. This innovative research support program is best suited to longer-term complex research issues involving the development of new knowledge with potentially system-wide applications.

Advice on the NCE initiative is available on request from the CCG R&D Office.

1.4.2 NR-Can GeoConnections Program

The GeoConnections Program is a 1999 initiative of the five resource-based departments and is funded at $60million over five years. The program is designed to promote the improved utilization of data and information in Canada's various renewable and non-renewable resource sectors. This program is a national partnership program and it is targeted toward making Canada's geographic data and information more accessible to Canadians. The GeoConnections Program is designed to support the development of the Canadian Geospatial Data Infrastructure (CGDI). A Marine Advisory Committee has been set up to represent the various maritime stakeholder groups.

The Department of Fisheries and Oceans, in cooperation with the Marine Advisory Committee and the GeoConnections Partnership Program has sponsored a series of workshops on the information requirements in the marine community. Issues that were identified for immediate work are the information requirements and the preferred modes of access for the stakeholder groups. The results of the workshop are being used to formulate specific initiatives required to ensure that the CGDI extends to and serves the needs of all marine users. The "marine" initiative is referred to as the Marine Geospatial Data Infrastructure (MGDI) project.

Funds are available from the GeoConnections program to help resolve the technical issues which may be proving barriers to the effective utilization of distributed data bases.

Additionally, within the Canadian Marine Geospatial Data Infrastructure (MGDI) context, the CHS has initiated an R&D project called "Ocean Portal" to use its "geomatic" expertise and base charts to access and extract knowledge from DFO's various data holdings using a geospatial platform. An Ocean Portal Feasibility project was initiated in 2000 and aims to address the feasibility of implementing a powerful innovative knowledge based geo-spatial infrastructure to augment, enhance and enrich existing products, services and programs and associated delivery mechanisms. The Ocean Portal initiative also links to "Government on Line" initiative out of the Treasury Board.

1.4.3 International and Inter-Governmental Programs

The CCG R&D Office, with support from the Client Services Directorate, is responsible for coordinating specific international R&D (umbrella) agreements. These agreements are not the sole venue for international cooperation, as a number of other committees do exist for the exchange of information and joint-development of operational issues. The International Maritime Organization (IMO) and its sub-committees on Marine Environmental Protection (MEPC) and Safety of Life at Sea (SOLAS) are examples of these operational windows to the international community.

The CCG R&D Office supports only those specific umbrella agreements designed to facilitate agency-to-agency cooperation on shared research themes not covered by the formal interagency or formal bilateral operational accords. The creation of long-standing research cooperation agreements on a department-to-department basis establishes the legal umbrella to facilitate the development of routine Joint Research Project Agreements (JRPAs) by which the CCG can share in the research of its counterparts around the world. Full details on the JRPA (Joint Research Project Agreement) process and sample contract are included in ***Section 6*** and ***Appendix "E"***.

In addition, the CCG R&D Office keeps abreast of current R&D programs being carried out by other federal departments and countries. The CCG R&D Office coordinates and (indirectly) funds membership on external committees when there is inter-agency cooperation in research projects. Funds are used to sponsor the research component, not general membership. The ***Ship Structures Committee*** is an example of such an arrangement.

Another major international opportunity is the European Union. The EU funds research amongst its 13 member countries in five-year "frameworks". The EU is currently on its 5th framework program, started in 1999. Marine research is always an element. Cooperation with the EU can be profitable inasmuch as the framework programs do provide the various European scientists or agencies with substantial funding and do provide incentives to international projects. Under the EU, each side funds its own component. EU member countries must contract within their own borders. Visit the EU web site at **www.cordis.lu/**

2. ROLES AND RESPONSIBILITIES

2.1 INTRODUCTION

Under the new CCG organizational structure, initiated in the CCG on April 3, 2000, a process-based matrix style management has been implemented. Under this management philosophy, a single source of technical expertise, combining advanced research work with life cycle management of assets, has been created. With respect to the major technical projects, it will be commonplace for program-based clients to draw staff resources essential to the performance of R&D initiatives from across organizational lines. In effect, for larger long-term initiatives, project teams will be drawn together to assimilate the range of skills and knowledge requisite to the completion of large R&D projects and leading to the effective acquisition and management of the physical asset base.

As well, in 1997 the CCG was integrated with the Department of Fisheries and Oceans. The role of the CCG in supporting the ocean mandate of that department was seen as being essential to Canada's long term goals of managing her total marine resource and to preserving the marine environment for the well-being of future generations. The integration of related marine facilities and services has provided for an enhanced presence in Canada's economic zone and for the integration of related technologies.

2.2 DFO/CCG R&D COMMITTEES

2.2.1 CCG R&D Committee

Comprised of the CCG Director-General for Marine Programs, Directors for each of the major HQ directorates, and CCG Regional Directors of Programs (or their alternate), this committee provides an authoritative forum for review of matters relating to engineering and regulatory studies within CCG. The CCG R&D Committee reports to Program and Resource Allocation Committee (PRAC) and the CCG Management Board. It derives its final approval from that forum.

The CCG R&D Committee reviews CCG's Strategic R&D Plan, the CCG Annual R&D Plan and the marine submissions to other funding sources (eg: PERD) to ensure that they are complementary and that the projects being proposed are properly prioritized. This committee also advises the Commissioner of Canadian Coast Guard on policies, priorities and specific issues of concern to the marine community at large. The implications of departmental and national policies, studies and initiatives are also reviewed.

2.2.2 CCG R&D Project Initiation and Implementation

Under the CCG organizational structure there are specific responsibilities for R&D project conception, initiation, performance and implementation.

R&D projects are identified by the various program and service delivery groups, at Headquarters or in the regions. Technical research projects are addressed to the ITS group for project delivery. Technical projects are identified as those leading to asset acquisitions. If necessary, ITS will contract with a third party for the requisite expertise and/or capacity. Operational or management related research projects (ie: non-technical) may be initiated and managed throughout the CCG. The end product of technical research projects will be incorporated into the life cycle management planning for capital acquisitions. The end product of operational or management-related research projects is implemented and/or communicated by the service delivery unit responsible for its initiation.

2.2.3 PERD Panel

The CCG is represented by the Commissioner, or his designate at the panel, which is an ADM-level Committee. The Office of Energy R&D (OERD) within Natural Resources Canada (NR-Can) acts as the Secretariat to the Panel and approves the distribution of Panel funds to the Programs at Objective Level (POL). The Panel provides a forum for interdepartmental discussion and co-operation, making it responsive to a variety of government objectives.

Co-ordinating committees have been established for each of the thirty plus Programs at Objective Level (POL).

The CCG R&D Office is responsible for collecting input from CCG Branches. In addition, the CCG takes the lead in consultations with other external agencies to promote a co-ordinated and prioritized input to selected POL's.

2.3 CCG R&D PROGRAM - ROLES AND RESPONSIBILITIES

Both Regional and HQ Branches and officers are involved in R&D projects. They work together to accomplish the goals of the R&D program and ensure that the plans are executed with a minimum of duplication or overlap.

2.3.1 R&D Co-ordinator

Each Branch (Regional or HQ) has a designated "Co-ordinator" or contact point. It is the responsibility of that officer to participate in the R&D program and to provide a coordinated input to the CCG R&D Office. The "coordinator" is at a sufficient level, or is authorized, to speak categorically for a branch or region on all matters.

2.3.2 Project Manager

At HQ, individual Project Managers prepare national-scope R&D initiatives in support of operational, regulatory and/or procurement needs of their program or service. Where appropriate, these proposals will be coordinated with other HQ directorates, or regions, to assure maximum 'buy-in' and incorporation of critical issues.

Regional Project Managers develop R&D projects based on regional and client needs unique to that region. These proposals must be coordinated with the respective HQ functional authority and with the CCG R&D Office. It is also desirable, where mechanisms exist (eg: NEEC) that other regions also be consulted or participate in major technical themes.

HQ Program and/or Functional Branches co-ordinate, and consolidate all projects within their area of program or service accountability.

All proposed and ongoing R&D project initiatives are submitted on a Project Justification (PJ) form, ***Appendix "A"***, either to the branch Co-ordinator, or when there is no Co-ordinator, to the Program Director or Regional Director for approval.

The PJs are then submitted to the CCG R&D Office, which screens them for inclusion in the CCG R&D Program. The R&D Committee is convened to assess and prioritize annual submissions which may then potentially receive funding.

1. HQ and Regional R&D Project Managers are responsible for:

- researching prior experience and consulting with clients to validate project concepts;
- preparing PJ forms for new or revised projects;
- identifying project resource requirements and forecasts;
- soliciting leverage funds;
- preparing contract requisition documents (technical projects via ITS);
- supporting Contract Officers;
- evaluating scientific/technical portions of proposals as appropriate;
- being the Scientific Authority (as appropriate);
- project management;
- execution of changes;
- progress monitoring;
- performance measurement;
- completing status reports; and
- communication of results.

2. R&D Co-ordinators are responsible for:

- preparing and co-ordinating the Branch R&D plan and activities;
- assuring broad-based consultation with clients;
- soliciting leverage funds;
- assisting Project Managers in the preparation of Project Justification documents;
- reviewing and presenting branch proposals to the Program or Regional Director for approval;
- representing the branch on the CCG R&D Committee and other R&D meetings; and
- keeping Project Managers up-to-date on R&D procedures.

2.3.3 CCG R&D Office

The CG R&D Office is the focal point for the co-ordination of R&D activities within CCG. It is responsible for maintaining a synoptic (strategic) R&D overview and for assisting program units with the incorporation of technological opportunities into their business plans. The CCG R&D Office will also compile and publish the CCG's Annual R&D Plan; compile and publish CCG's Annual R&D Report; co-ordinate CCG's R&D planning with other agencies such as DND or Transport Canada's Transportation Development Centre; promote co-operation on R&D projects between Branches; and ensure that reporting requirements with respect to CCG R&D are completed in a timely manner. The responsibilities also include:

1. Co-ordination and Administration:

- develop strategic alliances and R&D direction;
- provide a single point contact with outside organizations on policy and planning;

- facilitate the development of a cohesive R&D plan for CCG Program;
- prioritize CCG R&D activities; and
- co-ordinate the CCG R&D budget.

2. Planning and Programming:

- issue annual call letters;
- maintain a strategic overview on R&D directions;
- consolidate Annual R&D Plan;
- make recommendations to AM with respect to program activities;
- prepare budget delegation document for signature by the Commissioner or his designate;
- receive and review completed project justification and costing schedule documentation from both headquarters and Regions;
- coordinate project approval and amendment steps;
- analyze and consolidate R&D project status reports outlining progress, problems and possible reallocation of funds;
- chair Working Group meetings;
- recommend reallocation of CCG funds or periodic expenditure strategies as circumstances dictate;
- prepare and distribute an Annual R&D Report; and
- administer interdepartmental and international joint-funding documents (JRPA);
- introduce performance measurement and program review mechanisms.

2.3.4 Business Planning Office

The Marine Program's "Business Planning Office" assists the CCG R&D Office in the preparation of delegation documents, especially those relating to projects being managed by the CCG R&D Office. The Business Planning Office also supports the CCG R&D Office in the maintenance of the information contained in the financial reporting system, as well as the assignment of project codes, financial tracking and payment of invoices for those projects managed in the CCG R&D Office.

The CCG R&D Office provides delegation documents to the "Administrative Services Group" in Marine Programs. This group assures the initial delegation of funds to all branches and regions.

All "in-year" and other permanent budget transfers for the Marine Programs group are supported by the Administrative Services Group. Other branches and regions are responsible to raise their individual budget amendments for in-year transactions.

3. CCG ANNUAL R&D APPROVAL PROCESS

3.1 INTRODUCTION

Details of the activities of the planning process which provide an overall picture may be found in **Figure 3.1** ***Annual R&D Calendar***.

The CCG annual R&D process commences in late June with a call letter for Project Justification documents (PJs) and ends on April 1st of the following fiscal year with funding allocation. Each branch and region prepares and submits their project proposals (PJs) to the CCG R&D Office for screening and consolidation. After screening for completeness, and after being cross-referenced to other interested groups to assure full consultation has taken place, these proposals are submitted to the CCG R&D Committee for evaluation and prioritization. Proposals failing the screening criteria **(see Appendix "P")** will be either rejected as inappropriate or returned to the originator for further work. The CCG R&D Committee will apply specific statistically-based selection processes to all agreed submissions to finalize their recommendations on the CCG R&D Plan. **See Appendix "Q"** for the current list of selection criteria used in the Analytical Heirarchy Process (AHP).

Successful projects are then recommended to PRAC and the Management Board.

The CCG R&D Committee considers all viable project proposals submitted by the branches and regions. Due to annual budget limitations not all projects will be approved in any one fiscal year. However, those projects, for which no funding was confirmed, may be listed as "Approved-in-Principle". During the course of the year, if circumstances so warrant, projects on the "approved-in-principle" list may be activated. In this case, a second meeting of the CCG R&D Committee may be required to select from amongst the "approved-in-principle" projects, or in the case of minor funding requirements, Branch or Regional managers may be permitted to activate these projects on their own authority. In both cases, the budgets for the respective projects will be amended by submitting a completed costing amendment form and by providing appropriate information to the CCG R&D Office.

During the year branches or regions may also propose new (high priority) projects, for approval. These should be considered as exceptional cases, as the one year planning cycle is generally adequate to most research planning needs. For new mid-year projects, branches or regions would normally identify the necessary funding as an offset from within their R&D allocation or would identify funding from other sources. Submissions for new projects are forwarded to CCG R&D Office along with a PJ for the project for the approval by the CCG R&D Committee, and the Commissioner or his designate.

Branches and regions should also be cognisant of the approval process and schedules established by our *R&D partners* including NIF, GLAP, PERD, etc. and avail themselves of vital sources of financing.

The CCG R&D cycle has six basic stages:

1. Request for, and submission of, project proposals (PJs);
2. Initial screening;
3. Consultation between groups to limit duplication;
4. Committee review; recommendation to PRAC and MB
5. PRAC and MB approval; grant delegation authority;
6. Year-end reporting/communication.

3.2 REQUEST FOR R&D PROJECT PROPOSALS

The Project Justification form (PJ) is the basic document in the CCG R&D project justification process. PJs are used to illustrate how projects fall within the CCG business planning framework, to determine the priority of the project within branch/region plans, and to provide a basis for discussion papers for consultation with industry. PJs also provide input document for the CCG Annual R&D Plan and other communication tools which are given wide distribution within government, industry and the R&D community.

Branches and regions wishing to participate in, and receive funding from, the CCG R&D program should take note of the following schedules and tasks in the CCG R&D approval process.

July 1	Call letter issued to Headquarters Branches and each Region by the CCG R&D Office requesting R&D projects proposals for the upcoming fiscal year(s).
September 22	Proposals (PJs) from the regions are submitted to the respective HQ functional directorate and the CCG R&D Office.
October 1	HQ branches submit branch and region PJs to the CCG R&D Office. The R&D Office will screen projects for appropriateness and return proposals to the originators if initial screening indicates more detail is required. The HQ R&D Office will consolidate one R&D plan and circulate for review by the CCG R&D Committee.
October	Consultations between clients/performers
November (late)	Final revisions to PJs and draft plans consolidated at the CCG R&D Office. CCG R&D Committee reviews plan according to the pre-determined selection criteria, and using the Analytical Hierarchy Process
January/February	R&D Plan consolidated and presented to Management board for final approval and authority to delegate funds on April 01
March/April	PJs are capsulated by the CCG R&D Office and prepared for publication in the CCG R&D Plan.
May	R&D Plan published and distributed.

Details on how to complete a PJ and its associated costing schedule are summarized in the following section with complete instructions included in ***Appendix "A"***. Special care should be taken to clearly document the benefits and linkages of the proposed project to the CCG Strategic Plan and Branch Business Plan. Projects must be endorsed by the OPI for the product. PJs which are incomplete or inadequate in their detail will be returned.

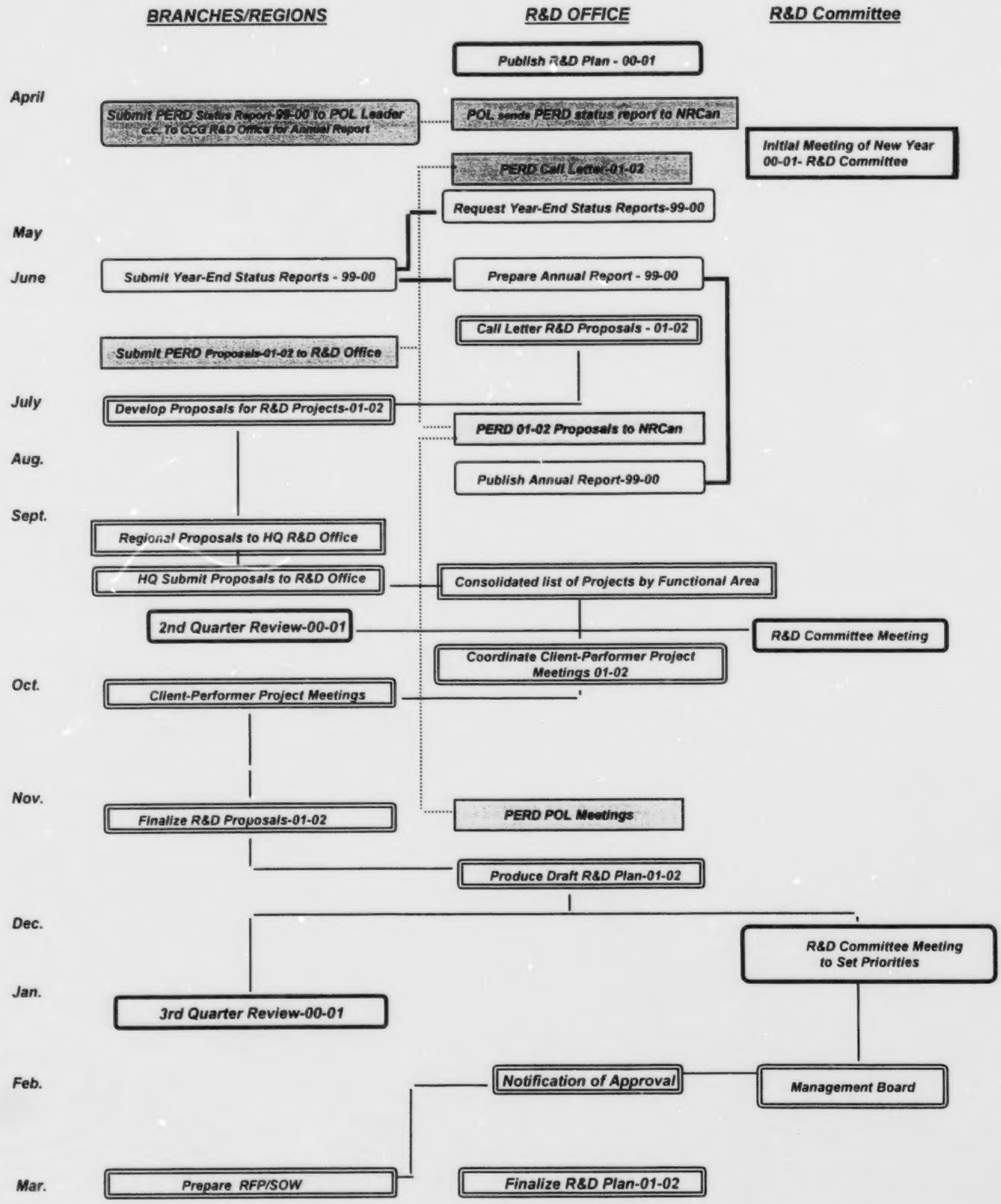

BRANCHES/REGIONS
R&D OFFICE
R&D Committee
Publish R&D Plan - 00-01
April
Submit PERD Status Report-99-00 to POL Leader c.c. To CCG R&D Office for Annual Report
POL sends PERD status report to NRCan
Initial Meeting of New Year 00-01- R&D Committee
PERD Call Letter-01-02
Request Year-End Status Reports-99-00
May
June
Submit Year-End Status Reports - 99-00
Prepare Annual Report - 99-00
Call Letter R&D Proposals - 01-02
Submit PERD Proposals-01-02 to R&D Office
July
Develop Proposals for R&D Projects-01-02
PERD 01-02 Proposals to NRCan
Aug.
Publish Annual Report-99-00
Sept.
Regional Proposals to HQ R&D Office
HQ Submit Proposals to R&D Office
Consolidated list of Projects by Functional Area
2nd Quarter Review-00-01
R&D Committee Meeting
Coordinate Client-Performer Project Meetings 01-02
Oct.
Client-Performer Project Meetings
Nov.
Finalize R&D Proposals-01-02
PERD POL Meetings
Produce Draft R&D Plan-01-02
Dec.
R&D Committee Meeting to Set Priorities
Jan.
3rd Quarter Review-00-01
Feb.
Notification of Approval
Management Board
Mar.
Prepare RFP/SOW
Finalize R&D Plan-01-02

Figure 3.1 - Annual R&D Calendar

3.2.1 Project Justification Form (PJ)

The PJ is the essential document to attain project approval. ***Appendix "A"*** provides all the guidelines for the completion of a PJ.

The costing schedule, the last page of the PJ form, shall be signed by the respective Program or Regional Program Director indicating his/her approval of the project and his/her assurance that the end product, if successful, is intended to be introduced to the CCG program.

Amendment procedures to the PJ are described in Section 3.5.3 *Project Amendment Approval.*

In general, an amendment to the budget of a project for either the purpose of re-assigning funds to another project or increasing the budget, requires completion of form Budget Transfer Form (Appendix "B").

Where funds are assigned to an external agency for project implementation (eg: TDC Branch), a separate project charter agreement or broad accountability contract must exist which describes the various terms and conditions for financial management and the process by which approvals for such amendments would be authorized. Any third party project manager must not reallocate funds between projects assigned to third-party management without an adequate review of the overall impact and approval by the funding branch or region.

Under no circumstances are funds to be moved to non-approved projects.

3.3 CONSULTATIONS

3.3.1 Consultation between Headquarters and Regional Offices

Regions are integral contributors to and facilitators of CCG research. As prime deliverers of the services performed by CCG, they have a distinct view on the technological barriers facing the CCG at the front line. There are direct benefits to incorporating regional R&D requirements. As well, there is a wealth of technical expertise available at the regional level and this may be tapped to provide project team leaders, technical expertise or client interface. The CCG R&D Office will ensure that adequate consultation occurs within the CCG.

August - September	HQ R&D Coordinators contact the regional coordinators with respect to potential R&D requirements. Regional Offices consult with their HQ counterparts to ensure that their projects are included in the program and have HQ support.

3.3.2 Consultation between CCG and External Performers

There are many (federal) agencies or institutions with a capacity to assist the CCG in the performance of its research activity. These services include laboratories, project management services, scientific authority, and shared funding of projects. To facilitate programming and planning, and to ensure that there is coordination and compatibility between the most frequently utilized agencies (eg: TDC, NRC, EC) yearly consultation meetings are recommended:

- CCG R&D project managers and coordinators meet for technical discussions and forward planning. Give indications of anticipated program directions and funding for projects of mutual interest.
- Follow-up meetings with the CCG R&D Coordination Office to display the partnering strategy and develop a knowledge base on external sources of expertise is encouraged.

By the same token, external agencies (such as TDC) may have projects which they wishes to pursue from theirs own funds **but** for which they require an external client. TDC may, for these projects, ask CCG to give client endorsement and to share in the funding. Branches must be aware that in becoming a ***client*** for a TDC project the branch assumes full ***client responsibilities*** for the project. Branches entering into any agreement with any agency, as a client, should be prepared to identify their own internal project manager and clearly delegate those responsibilities. Where funding or services-in-kind are anticipated, a Client Agreement as per ***Appendix "F"*** must be completed.

3.3.3 Consultation with CMAC/Industry

CCG wishes to ensure that its R&D program is adequately reviewed by R&D stakeholders in the marine and R&D communities on an ongoing basis. Consultations are specifically structured to ensure relevant input and dialogue on new proposals and directions. The consultative process envisages specific industry presentations such as those scheduled for the fall CMAC meetings and more focused seminar-style consultations with specific interest groups.

3.3.4 R&D Plan Approval

The CCG R&D committee, under the chairmanship of the Director General, Marine Programs, will review, prioritize and recommend R&D projects. During the CCG R&D Committee meeting, sponsoring Branch and Regional Directors are invited to highlight new R&D projects, ongoing projects, and their respective strategic R&D plans.

November	CCG R&D Office convenes CCG R&D Committee for purposes of final review of projects using the Analytical Hierarchy Process, or some other technically-based selection process
December	CCG R&D Office finalizes a presentation package of the CCG R&D Plan for submission to Commissioner or his designate.
January	Chair, CCG R&D Committee, makes presentation to Management Board for final approval of R&D plan Prior to the presentation to Management Board, the CCG R&D Office provides the Commissioner or his designate with a

briefing on the R&D plan highlighting areas of interest, priorities and concerns.

CCG R&D Office distributes *record of decisions* to HQ and regional offices.

3.3.5 Delegation Documentation

To ensure a seamless flow in the R&D process, and to ensure that projects go to contract as early as possible in the new fiscal year, the CCG R&D provides branches/regions with an advance list of those projects which have approval from the CCG R&D Committee and for which funding allocation can be expected. This early notice is followed by official delegation of funds on, or about, April 01.

At present, delegation documents are prepared by the CCG R&D Office and submitted to the Marine Programs Administrative Service Group for initial delegation process. In the future, delegation may be performed directly by DFO HQ Finance. In either case, and to ensure that project managers are aware that the delegation has taken place, the CCG R&D Office distributes an information note to the R&D Committee indicating that the R&D delegation documents have been submitted. Delegation to regions uses a "suspense account" process and regional project managers often need to confirm that funds have been received, in order to avoid a disconnect.

April 01	CCG R&D funds are approved as part of the budget of the Director General, Marine Programs
April 01	CCG R&D Office provides delegation documents to the Administrative Services Group (Marine Programs) for delegation. To ensure that projects start as early as possible, Project Managers are encouraged to prepare Work Statements and commence the contract tendering process. Project Managers must not enter into contract or take any irrevocable action prior to receipt of the delegation documentation.

3.3.6 CCG R&D Plan

Upon approval of the R&D Plan, the CCG Office prepares, publishes and distributes the Plan for the current fiscal year to R&D performers and other stakeholders. The Plan is distributed in April/May.

3.3.7 Year-end Status Reports and CCG Annual R&D Report

Accountability for the R&D program is accomplished through the preparation of *Year-end Status Reports* and the subsequent publication of the results of our research and development projects in the *CCG Annual R&D Report*. This publication is widely distributed within the government, marine industry and the R&D community.

The R&D Annual Report is based on the information contained in the year-end status reports submitted by the branches. A year-end status report form must be completed for each project for which money was spent. Full details on R&D project reporting requirements are found in Section 4 of this manual.

The Annual Report is distributed in September.

3.3.8 Performance Measurement and Program Review

Information on Performance Measurement is available on the departmental web site at `www.review-examen.ncr.dfo-mpo.gc.ca/performane/performance/htm`.

In the context of the R&D program, performance is measured at two levels. Individually, projects must contribute to CCG programs or service elements. A special section is provided on the project justification form to indicate measures which will be monitored to assure successful results from projects.

At the program level, the aggregate contribution of the R&D program to overall goals and objectives must also be measured. The CCG R&D Office will work with the Performance Measurement group to develop this aspect.

3.4 DELEGATION OF FUNDS

3.4.1 Introduction

CCG's O&M budget is the primary source of funding for the CCG R&D plan. Significant funds, however, are made available to the CCG R&D program by our R&D partners. Information on CCG's R&D funding process and the processes used by some of our partners are described below.

3.4.2 CCG R&D Funds

CCG R&D funds are accessed through the project justification and approval process described in this section. The original R&D Plan for the forthcoming fiscal year is presented first to the Planning and Resource Allocation Committee (PRAC) and then to the CCG Management Board and the Commissioner for approval in January of each year. When approved, information about approved projects is distributed to the applicable Directorates and Regions. Budget delegation documents are prepared in the CCG R&D Office to be included as part of the total initial budget delegation of O&M and Capital resources, which takes place on April 01.

The administrative staff in the Administrative Service Group (Marine Programs) submit the budget input to the Administrative Services office who will arrange for entry into ABACUS (the financial reporting system).

In February and March, based on approval-in-principle received from the CCG DG's R&D Committee, project managers prepare Statements of Work (SOW) and other agreements necessary to commence the contracting process early in the fiscal year. This process helps to ensure the problem of "lapsed funds" is minimized.

3.4.3 TDC Funding

R&D funds may be accessed for CCG projects from Transport Canada's R&D Core program. As these are inter-agency funding structures, the use of Client Agreements (formerly described) and listed in ***Apprendix "F"*** are required. This agreement establishes the general terms and conditions, responsibilities and financial commitments of the two organizations.

As project milestones are completed, TDC will forward an interdepartmental voucher to the CCG project manager for his/her signature authorizing payment of CCG's share of the project costs stated in the agreement.

3.4.4 PERD Funding

Delegation of PERD funding is contingent upon the existence of a three-year MOU between the relevant authorities at OERD and the Deputy Ministers of recipient departments. The MOU establishes the terms and conditions for the management of PERD funds and the various accountabilities.

At the beginning of each fiscal year, NR-Can (OERD) will transfer funds through an Interdepartmental Settlement Notice to DFO's Finance and Administration office. The Finance and Administration group will establish a suspense account equivalent to the approved spending level and will transfer the appropriate budget levels to the respective CCG branches/regions identified to receive PERD funding.

Amendments to the approved CCG delegation are managed through the CCG R&D Office.

3.4.5 Interdepartmental Funding

The CCG benefits from additional project support provided by the National Research Council (NRC) and Natural Resources Canada and other agencies. In most cases, these departments act as contract managers or technical authority for CCG.

A Letter of Agreement, ***(Appendix "D")***, is established between the CCG and the other government department(s). It details the work to be undertaken and the cost sharing arrangements. NRC and submit invoices to the CCG to recover project costs. Special procedures for transfer of funds will form part of the Letter of Agreement.

3.5 CURRENT YEAR PROJECT APPROVAL / AMENDMENT PROCESS

3.5.1 General

The approval and delegation process required for the introduction of new projects which arise throughout the year is designed to be simple and permit timely adjustment(s) to branch or regional plans.

Changes to the approved R&D plan are divided into two categories:

- **new project** approval; and
- **project amendment** approval.

Each category follows a slightly different approval process.

3.5.2 "New Project" Approval

A new project is one which is **NOT** included in the **current year** CCG R&D Plan. All new projects introduced into the plan subsequent to the annual approval requires the signature by the Commissioner or his designate. In requesting approval, it is necessary to identify other project(s) that are deferred or have a budget reduction to offset the budget of the new project.

The steps involved to obtain "new project" approval are:

1. Project manager completes PJ and costing schedule per the criteria in ***Appendix "A"***;
2. Project manager completes a ***Budget Transfer*** form to identify availability of funds (***Appendix "B"***);
3. Relevant section or program "Director" signs project documentation;
4. Project manager submits documentation to their respective finance unit;
5. Submit documentation to the Branch Director or Director General for approval and signature;
6. Project Manager/Coordinator forwards signed documentation to the CCG R&D Office;
7. The CCG R&D Office routes the documentation to the Director General responsible for the management of the R&D program. Depending on the nature of the project, it may then be the subject of review by the CCG R&D Committee, forwarded to PRAC, or recommended directly to the Commissioner or his designate for approval;
8. CCG R&D Office receives signed documentation from the Commissioner or his designate and informs the initiating branch/region of approval and incorporates the new project in the R&D Plan; and
9. The CCG R&D Office maintains a copy of approval on the project file. A copy is forwarded to the requesting Branch/Region.

3.5.3 Project Amendment Approval

During the year the scope and cost of an approved project may change. Funding reallocation to projects (within the branch) can be initiated through the completion and submission of a ***Budget Amendment Form***, ***Appendix "B"***. Care should be taken to clearly identify projects which are "*cancelled*", "*deferred*" or "*completed*".

The completed documentation is submitted to the Branch or Regional Director for authorization. A signed copy of the form is to be forwarded to the CCG R&D Office which ensures that the Business Planning Office is provided with a copy.

The steps involved to obtain "project amendment" approval are:

1. The project manager amends PJ costing schedule, has it signed by the divisional chief, Branch financial unit and either the Branch or Regional Director for approval and forwards a copy to the CCG R&D Office.

2. The CCG R&D Office records the change on the R&D Plan and forwards a copy to the Business Planning Office who will request the branch's finance unit to submit a budget amendment form.

3.5.4 Reallocation of R&D Funds between Branches/Regions

A branch or region may allocate R&D funds to another branch or region for application to specific projects or may release funds that are expected to lapse. In either case the "Project Amendment Form" must be initiated by the branch/region reallocating the funds and signed by the initiating and receiving Directors.

1. **Branch-to-branch**: The initiating branch completes Item #1 of the "Budget Amendment" ***(Appendix "B")*** showing the project(s) which are reallocating R&D funds. The Amendment form is signed by the Branch Director and forwarded to the receiving branch/region for completion.

   The receiving branch completes Item #2 of the Amendment form indicating the project(s) receiving the reallocated funding as well as the ***"Explanation of Changes"*** section of the form. The form is signed by the Branch Director and forwarded to the CCG R&D Office who will update the R&D Plan and forward a copy to Business Planning Office. Business Planning will request the appropriate finance units to submit a budget amendment form.

   If this is a new project, a Project Justification form and costing schedule ***(Appendix "A")*** must accompany the Amendment form sent to the CCG R&D Office who will request approval and signature from the Director General, Marine Programs, or his designate.

2. **Multi-Branch reallocation:** The branch/region releasing R&D funds shall complete Item #1 of the Amendment showing the project(s) which are reallocating funds. The *"Explanation of Change"* section should read "Funds released for reallocation". The form shall be signed by the releasing Director and forwarded to CCG R&D Office.

   Branches/regions receiving reallocated R&D funds will be reflected in Item #2 on the Amendment form. The *"Explanation of Changes"* should be preceded by the statement, "Reallocation of Funds as recommended by CCG R&D Working Group." The form shall be signed by the Branch or Regional Director and forwarded to CCG R&D Office to update the R&D Plan and to forward a copy to the Business Planning Office. Business Planning will request the appropriate finance units to submit a budget amendment form.

   If a branch/region is proposing a new project, a Project Justification form (PJ) and costing schedule (***Appendix "A"***) must accompany the Amendment form sent to the CCG R&D Office who will request approval and signature from the Commissioner or his designate.

4. R&D PROJECT AND PUBLICATION REQUIREMENTS

4.1 INTRODUCTION

The initial approval and continued funding of an R&D project is based on the information contained in the Project Justification and Status Reporting forms ***Appendices "A" and "C"***. Project Justification forms are updated annually to reflect changes indicated on the Project Status Reporting Form and other reports on the financial performance and progress, in relation to the approved plan and agreements. These reports also contribute to the measurement of project effectiveness (performance measurement) in relation to CCG objectives and to the assessment of project administration. Reporting requirements are mandatory.

To support the control and reporting process of R&D projects, the CCG Project Manager will normally complete the following reports and forms, during the life cycle of the project:

- Project justification form and subsequent amendments ***(Appendix "A")***;
- Project Completion Report (part of Status Report Form) ***(Appendix "C");***
- Project Status Report ***(Appendix "C");***
- TDC Client Agreements (where applicable) ***(Appendix "F")***;
- Periodic performance reports from ABACUS;
- Publication Data Form ***(Appendix "I")***; and
- Memo to DFO Library for retention of final reports ***(Appendix "J")***.
- PWGSC Contract Performance Evaluation Report ***(Appendix "U")***;

This section highlights the forms, reports and deadlines applicable to the CCG R&D process.

4.2 GENERAL R&D EXPENDITURE AND STATUS REPORTING REQUIREMENTS

During the fiscal year, R&D Project Managers/coordinators are required to report three times during the course of any one year for each project, indicating project achievements, problems, planned expenditure data and milestones. Mid-year reports may be verbal (or written) at the discretion of the R&D Office. Year-end reports are mandatory. The reports are consolidated by the CCG R&D Office as a management tool. Information to support this process is to be provided to the CCG R&D Office by the individual Project Managers and/or coordinators.

Project status reports are due in Sept. (mid-year), January (3rd Quarter), and April (year-end). For each of these time periods, the CCG Working Group will review progress, identify potential problems and recommend reallocation of funds as required.

4.2.1 Status Report Forms

Status reports for projects receiving CCG R&D funding are submitted on the CCG form shown in ***Appendix "C".***

Projects wholly funded by outside sources (TDC, NIF, PERD, etc.) are reported to the CCG R&D Office in the format of the funding agency. Copies of other-agency year-end completion documents should be provided in lieu of the CCG "year-end" report. Financial data is derived from ABACUS.

The CCG R&D Office will send out a reminder to Project Managers/Coordinators that their status report(s) should be prepared.

It should also be noted that upon completion of an R&D project, an additional block of information is to be completed on the status report form. Known as "Project Completion", this information will summarize the deficiencies or difficulties encountered and makes recommendations regarding the conduct of future projects and carry-on activities. The project completion report can be submitted anytime during the year to the CCG R&D Office.

4.3 GENERAL R&D PUBLICATION REQUIREMENTS

The purpose of this section is to ensure all research reports prepared for CCG can be readily identified for future reference.

For the preparation of reports by contractors engaged in CCG R&D projects, the following requirements are recommended by the CCG R&D office.

4.3.1 Request DFO Document Number

The use of the editorial and printer liaison services of the DFO Communications Group is not mandatory and CCG officers may prepare documents for publication on their own responsibility. Only research reports for which DFO Communications Group has provided support services and printer liaison will be assigned a document identification number. This number is an internal administrative reference number and not a number used in library referencing.

4.3.2 Publication Data Form

This form is inserted at the front of the final report. It provides a brief synopsis of the project's objectives and findings as well as core referencing and "key word" data. Normally, a CCG Project Manager will include the requirement for the preparation of a publishable report within the total contract. In this case, the CCG officer provides the form to the contractor for completion in both official languages. See ***Appendix "I"*** for form.

4.3.3 ISBN Numbering

All publications intended for public distribution should be in bilingual format and must include both an ISBN (International Serial Book Number) number and the standard Crown copyright. The ISBN number is obtained from PWGSC. The issuing office which provides the ISBN normally requires, in turn, that the CCG provide 400 copies of the publication on deposit for automatic distribution to the PWGSC standing distribution list. Alternatively, the CCG may put one copy (each language) on deposit with PWGSC and commit to fulfilling all inquiries arising out of the PWGSC weekly listing of new publications.

ISBN numbers may be obtained by completing the catalogue number request form on the web where it will be received by the central mailbox. Turnaround time for confirmation of the newly issued ISBN number will take up to 72 business hours. The assigned ISBN number and Catalogue number will be mailed back after the process is completed. The Depository Services Program (DSP) web site is:

http://dsp-psd.pwgsc.gc.ca/ISBN/services-e.html

The contact office is:

Depository Services Program
Public Works and Government Services Canada
Constitution Square
4th floor, 350 Albert Street
Ottawa, ON. K1A 0S5
(613) 993-1695 or 991-0013

4.3.4 Translation Services for CCG R&D Publications

All CCG R&D publications must be available (simultaneously) in both official languages. Translation requests are managed locally and procedures will vary. Services may be accessed from either Secretary of State or contracted from pre-approved contractors.

4.3.4 DFO Library Retention Service

To retain copies of any CCG R&D publications in the DFO library, a memo enclosing two copies of final reports and documents is required. See ***Appendix "J"*** for sample memo.

The CCG Project Manager may declare reports "restricted" in accordance with the established criteria in the Marine Group report entitled "Restriction and Control of R&D Data and Information in CMTA", Volume 1 and 2, TP 7133 and TP 7134.

4.3.5 CCG WEB SITE

The use of the electronic media is an ideal supplement to the publication of reports. Using the Internet as an electronic forum, can achieve a much wider knowledge base about CCG R&D activities and a more open access to R&D reports.

The CCG R&D Office will assure that all R&D procedural documents are available electronically for ease of access by staff.

Under the new Government onLine initiative, the CCG R&D Office will also support the posting of public information on the Internet and will provide assistance to personnel wishing to have information about their projects listed on the R&D web site or linked to other sites.

4.4 CCG ANNUAL R&D REPORT

The CCG R&D Office compiles and publishes an Annual Report each year summarizing CCG's R&D activities during the previous fiscal year, benefits achieved, and a financial distribution of funds by project. The year-end status report provides the input for the Annual R&D Report which contains a summary of final reports published during the past year.

CCG Project Managers are encouraged to submit pictures, drawings of their project activities and special interest stories which will increase the *visibility* of the benefits of the CCG R&D program.

The report is scheduled for publication in September.

4.5 CCG R&D PLAN

The CCG R&D Office, at the commencement of each fiscal year, publishes the approved CCG R&D Plan for that fiscal year. This report includes a financial summary, financial allocations by project and branch, and a short descriptive narrative of each approved project, including projects on the "Future Planning" list and projects being managed and/or funded by outside agencies for, or on behalf of, or jointly with CCG.

CCG Projects fully funded by outside sources such as TDC, NIF, or PERD are considered to be a part of the CCG R&D Program. Information on these projects should be included with all reports and be a part of the branch/Regional R&D plan. Reports provided to funding agencies may be sent to the CCG R&D Office in lieu of the standard CCG Report.

5. R&D CONTRACTING & PROJECT MANAGEMENT PROCESSES

5.1 INTRODUCTION

Almost all CCG R&D is carried out under contract by consultants, organizations in the private sector, or other federal research agencies. Further, under the new organizational structure introduced on April 03, 2000, the Integrated Technical Services (ITS) Branch has been designated as the primary office for the acquisition of technical services expertise and contracting support, in respect of the CCG's major capital assets. The intent of this section is to provide project managers with the general procedures and documentation requirements relative to direct contracting-out for non-technical/management-oriented research projects, and/or developing project charters with the ITS Branch to acquire support for contracting-out technical R&D projects.

5.2 R&D CONTRACTING RESPONSIBILITIES

Projects let directly by CCG projects managers to industry may be executed either through DFO's Procurement Services Branch, (HQ/regional) or directly through the Public Works & Government Services Canada (PWGSC). The responsibilities of each are described below. These responsibilities are consistent for all branch or regional personnel. Specific procedures for requesting proposals (RFP), developing a statement of work (SOW), and selection method and bid evaluation are discussed in the subsequent Section 5.3. **(See also Appendices R, S, and T).**

5.2.1 Project Manager

CCG project managers (or project team leaders) represent the Office of Primary Interest (OPI) on a project. Regardless of where individual responsibilities for various management aspects of a project are assigned, the Project Manager will normally oversee all steps in the project, including the contracting process, except where lead responsibility has been assigned to another agency. For projects being conducted by the ITS Branch on behalf of the OPI, the oversight role of the (client/OPI) Project Manager, and the ITS Scientific Authority, may be additionally specified in a "project charter".

CCG Project Managers (or designate under a project charter) are authorized to liase directly with PWGSC contracting officers. They may, alternately, seek assistance from the DFO Procurement Services Branch, either in the form of liaison with PWGSC or obtaining contact names at PWGSC.

Contracting regulations and forms change regularly thus it is essential that Project Managers keep up-to-date with the contracting policies, processes and forms. The Project Manager may refer to:

1. Information and Administrative Management Manual - Contracting, published by Treasury Board;

2. Administrative Policy Manual, published by Treasury Board; and

3. DFO Procurement Procedures. Both procedural manuals and course modules covering six major aspects of effective contracting are available on the DFO Intranet web site (`Http://142.130.7.52/fa`). Specific sections of these course modules are included in this manual, for ease of reference.

Scientific Authority

For each project, there will normally be a Scientific Authority. The Scientific Authority is the person with requisite specialist knowledge (informed client) to deal in an authoritative manner with those persons, or agencies, conducting research on behalf of the CCG. The Scientific Authority is authorized to accept or reject product and to provide technical guidance on the evolution of a project. The Scientific Authority may, or may not, be authorized to make progress payments. The Project Manager may also be the Scientific Authority. ITS will provide the Scientific Authority for technical research projects leading to asset acquisition.

In a project team, in the case of a large multi-year project, there will normally be a higher level of compartmentalization of administrative functions.

5.2.2 Materiel, Contracting & Facility Management, Contracting Services

The DFO Procurement Services Branch provides internal contracting services for DFO/CCG. The Procurement Services Branch records contract requests and will transmit larger contract requisitions to PWGSC.

R&D contracts in excess of $25,000 are handled by PWGSC. Administrative contracts under $25K are handled internally.

5.2.3 Public Works & Government Services Canada (PWGSC)

The government places a high priority on the use of science and technology to generate wealth in Canada, and PWGSC provides a central monitor and control point for R&D. Thus, PWGSC provides contracting services for most federal R&D. The MERX ™ system of electronically posting requests for proposals, standing offers and advance procurement notices is a state-of-the-art tendering system which provides for the fast and effective transmission of contracting data to the North American consulting and scientific community.

The Science branch of PWGSC, the Science Procurement Office (SPO) works with client departments to expedite and conclude R&D contracting activities. The SPO manages contractual arrangements between government and contractors.

The CCG project manager should contact her/ his SPO as early as possible to inform them of the upcoming contract requirements.

The responsibilities of the SPO include:

- Supporting the Scientific Authority (SA);
- Sourcing, publicity, overall R&D accounting;
- Evaluation of non-technical portion of proposals;
- Contract negotiation, preparation, termination, and settlement;
- Ensuring protection of proprietary rights (including correct contractual language for intellectual property issues); and
- Contract authorization and amendments.

The PWGSC Science Centre uses the Internet to publish its monthly R&D Bulletin. Their Internet address is **http://www.pwgsc.gc.ca/sos/text/serv-e.htm**. The PWGSC listing of documents relating to "Business and Publications" will appear.

NOTE: PWGSC should be clearly advised when contracts let by them include PERD funds.

5.3 THE CONTRACTING PROCESS

The contracting processes described herein are based upon guidelines and directives issued by Treasury Board and Fisheries and Oceans.

CCG project managers must be actively involved in every phase of the contracting process. These are lumped into four phases:

Phase 1 - Requirements definition;
Phase 2 - Contracting activities;
Phase 3 - Contract administration; and
Phase 4 - Post contract administration.

The following subsections outline these four phases. Project managers are cautioned to refer to the manuals and procedural documents listed in **5.2.1** for current standards and further detail. For convenience, the phase descriptions are based on the assumption that the contract requisitions are handled at PWGSC. Where requisitions are handled through the DFO Procurement Services Branch, the same basic steps are to be followed.

5.3.1 Phase 1: Requirements Definition

When PJ approval or approval-in-principle is received the project manager initiates a contract requisition. The basic steps in preparing a Request for Proposals, pursuant to the contract requisition, are described in **Appendix "R".** In effect, the project manager is required to:

1. Prepare a contract initiation package containing:

    a) Requisition for goods & services form (PWGSC 9200), ***(available on CGIS)***;
    b) Statement of Work, ***Appendix "S"***;
    c) Special Instructions, (including intellectual property issues **(Appendix "H")**
    d) Bidder's List keywords;
    e) Proposal Evaluation Criteria **(Appendix U)**; and
    f) Other special instructions such as publication standards for reports to be printed for public release, requirements for software development, etc.

2. Identify potential sources of supply;

3. Acquire all in-house approvals, opinions; and

4. When funding approval is in place, forward package to PWGSC or to DFO Procurement Services Branch (10-S-023) for subsequent forwarding to PWGSC.

5.3.2 Phase 2: Contracting Activities

PWGSC SPO (Science Procurement Officer) is responsible for the completion of this phase of the process. SPO reviews the requisition; raises any questions or concerns with the CCG project manager; determines methods of procurement; refers to contracting inventory for potential list of bidders; prepares and distributes the tender package to potential bidders; arranges the bidder's conference; and conducts an administrative audit of the bids. The PWGSC SPO forwards the acceptable bids to the project manager for technical evaluation.

The CCG project manager is required to:

1. Assist in development of source lists and preparation of the tendering package;
2. Conduct a technical evaluation using the pre-determined evaluation criteria submitted with the requisition; and
3. Forward evaluation results in writing to PWGSC SPO (Science Procurement Officer).

The SPO, upon receipt of the evaluation results, awards a contract to the successful bidder and notifies unsuccessful bidders of the outcome.

5.3.3 Phase 3: Contract Administration (Project Management)

It is the responsibility of the CCG Project Manager or *client manager* to monitor activities and performance of the contractor (including delegated project managers in other departments or agencies) by:

1. Reviewing the contract with the contractor to ensure the Statement of Work **(Appendix "S")**, all terms and conditions, deliverables and milestones are understood;
2. Establishing a project steering committee when there is multi-branch participation;
3. Holding/attending regular progress meetings with the contractor/delegated project manager;
4. Receiving regular progress and financial reports from the contractor/delegated project manager;
5. Monitoring and documenting the progress of the contract with regard to quality, time and cost;
6. Raising a requisition for contract amendment or amending a *Client Agreement* to reflect new requirements, work schedules and payment provisions in response to changing circumstances;
7. Conducting technical/management and financial audits;
8. Accepting/approving milestone reports;
9. Certifying claims for payment or Journal Vouchers in accordance with the Financial Administration Act (FAA); and
10. Completing status reporting requirements as set out in Section 4 of this manual.

The project manager should maintain an up-to-date project file for each project. The file includes:

- project justification form and costing schedule;
- requisition for contract;
- contract;
- resumés of contractor's personnel to be engaged in the work;
- progress reports;
- contract amendments, invoices, payment approvals;

- monthly expenditure status report;
- middle and late year R&D project status reports;
- request document report number; and
- copy of executive summary and recommendations from final report.

More detailed directions on project management is contained in the TB Administrative Policy Manual

Where in-house contract management resources are limited, consideration may be given to contracting-out for system support requirements. The ITS group is committed to providing essential contract management support to technically-oriented R&D projects, either through in-house resources or through contracted expertise. Program Managers and others may also benefit from similar support strategies.

Care must be exercised to avoid the creation of an employer-employee relationship while contracting for system support. *"Technical Investigation and Engineering Services" (TIES)* contracts have historically been used to provide assistance in the management of major technical investigations. TIES contracts are not as favourably viewed today, as they were in the past. TIES contracts must be carefully defined and their application should be selectively considered. PWGSC is available to assist in this process.

5.3.4 Phase 4: Post-Contract Phase

It is necessary to complete an assessment of the contractor's performance after completion of the contract and attend to the application/distribution of the product/report.

PWGSC requests that the CCG project manager complete the PWGSC Contract Performance Evaluation Report (PWGSC form 9259), ***Appendix "U"***. The evaluation of the contractor's work provides feedback to the contractor and valuable reference information for future contracts. In addition to the PWGSC post-contract report, the CCG has a specific post-project report to be completed as well. **Section 4.2.1**.

5.4 LETTERS OF AGREEMENT - EXTERNAL PARTNERS

Letters of Agreement are to be entered into when the R&D project is undertaken on behalf of the CCG by another federal agency, such as the Transportation Development Centre (TDC) or the National Research Council (NRC), or through international cooperation. The purpose of establishing a formal understanding is to assure that an agreed and compatible funding process is in place.

Appendix "D" provides an example of a standard format and content for this type of agreement. Specific attention should be given to the cost sharing arrangement. It should also be noted that the method to transfer funds varies from agency to agency. Agreement with other federal agencies require sign-off by the Director or Director General responsible for the R&D program.

A *Client Agreement* with TDC requires acceptance and signature of the "CCG project signing authority" normally the Manager or Program Director or other responsible Director. Sample TDC/CCG *Client Agreements* are found in ***Appendix "F"***.

CCG has opportunities to undertake joint research activities with the United States and other "preferred partner" countries. A sample international joint project research agreement is attached in ***Appendix "E"***. (Note: See Section 6 for a complete description of the CCG international cooperation framework and procedures).

5.5 INTERNATIONAL CONTRACTING

In addition to the international cooperation, noted above, there is also a question of international contracting and/or participating financially in the research of an international partner.

Under the North American Free Trade Agreement (NAFTA) contracts tendered competitively are accessible by the NAFTA partners. There are some limitations and competitive advantages provided within the NAFTA framework, but there are technically no barriers to transborder contracting with NAFTA signatories.

As well, and subject to any restrictions unique to the given project, any company worldwide may bid (competitively) on a domestic research project. Common strategies include strategic industry alliances, using a legitimate business registered in the host country as the nominal bidder.

More frequently, however, the CCG will wish to participate with a third country in a specific R&D project of mutual interest. In this case, the establishment of a country-to-country or department-to-department agreement to cooperate in specific areas (such as marine research) is a first step. This legal framework authorizes cooperation with another government department. In this case, one department may contract for services within its jurisdiction and will invoice the other department for its share of the product, under the terms of the cooperation agreement (and in keeping with an internally approved project proposal). See Section 6, International Cooperation.

5.6 INTELLECTUAL PROPERTY (IP)

On June 01, 2000 the Treasury Board approved a new policy in respect of ownership of intellectual property arising under Crown contracts. The new policy stipulates that The primary objective of Crown Procurement Contracts is to receive the deliverables contracted for, and to be able to use those deliverables, and any Intellectual Property arising by the virtue of such Crown Procurement Contracts for Government of Canada activities. The Government of Canada's *Contracting Policy* further states that officials are to achieve best value for money and to seek the optimal balance of benefits to the Crown and the Canadian people through its purchases. As part of this commitment, the Government of Canada has made specific provisions for social and economic development objectives to be pursued through procurement.

One of the socio-economic objectives pursued through Crown Procurement Contracts is the commercialization of Intellectual Property by the private sector to create jobs and generate economic growth. The revised policy on *Title to Intellectual Property Arising Under Crown Procurement Contracts* sets out a framework for the Intellectual Property arising by virtue of such Crown Procurement Contracts to be vested in the Contractor, while ensuring the Crown's ability to use the deliverables contracted for and the Intellectual Property for all Government of Canada activities, including future contracts and procurements, and to protect the broader public interest.

PWGSC advises contractors:
Under the revised policy on ownership of intellectual property, contractors may now take title to inventions and intellectual property, developed under Crown contracts. The intellectual property considerations of government sponsors and the proposer will be taken into account during contract negotiations.

Section 1-6 of the PJ form ***Appendix "A"*** should explicitly address the course of action to be taken on IP for the resulting product of the project. A questionnaire is supplied to assist the project proponent in assessing the appropriate course of action.

Copies of the current Treasury Board policy (TB# 817067) entitled "Title to Intellectual Property Arising Under Crown Contracts", and DFO's questionnaire for the assessment of whether the DFO/CCG might wish to retain ownership of intellectual property are included as ***Appendix "H"***

The CCG R&D Office maintains advisory services for the management of IP both through departmental resources and through support services provided under a standing offer with the National Research Council-Intellectual Property Office. Contact the CCG R&D Office for advice on how to meet specific project requirements.

5.6.1 Exception to Contractor Ownership of Intellectual Property (IP)

Under the Crown Procurement Contract, the Crown may own the Foreground for the following reasons:

- national security;
- where statutes, regulations, or prior obligations of the Crown to a third party or parties preclude Contractor ownership of the Foreground;
- when the Contractor declares in writing that he/she is not interested in owning the Foreground;
- where the main purpose of the Crown Procurement Contract, or of the deliverables contracted for, is:
  - to generate knowledge and information for public dissemination;
  - to augment an existing body of Crown Background as a prerequisite to the transfer of the augmented Background to the private sector, through licensing or assignment of ownership (not necessarily to the original Contractor), for the purposes of Commercial Exploitation;
  - to deliver a component or subsystem that will be incorporated into a complete system at a later date (not necessarily by the original Contractor), as a prerequisite to the planned transfer of the complete system to the private sector (not necessarily to the original Contractor), through licensing or assignment of ownership, for the purposes of commercial exploitation.
  - where the Foreground consists of material subject to copyright, with the exception of computer software and all documentation pertaining to that software.

5.6.2 Procedures for the Use of Exceptions

When the Crown intends to own the Foreground by invoking an exception in Section 6 of the Policy, the Contracting Authority should:

- in a competitive bidding situation, indicate in the solicitation documents the fact that the Crown will own the Foreground or, where relevant, the specific components of the Foreground that the Crown will own, and set out the exception being invoked; or,
- in the case of sole source contracting, indicate to the Contractor, in writing, in advance of negotiations with the Contractor, the fact that the Crown will own the Foreground or, where relevant, the specific components of the Foreground that the Crown will own, and set out the exception being invoked.

The Crown may take ownership of the Foreground when the bidder or potential Contractor chooses not to own the Foreground and makes a declaration in writing to that effect.

5.7 DISCLOSURE OF INVENTIONS BY PUBLIC SERVANTS

New technologies may be invented in the course of performing federally-funded R&D. Project managers are required to identify such inventions, both for purposes of patents to be registered in right of the Crown and for any awards or monetary compensation that may be provided under various federal inventor award programs. ***See Appendix "O"*** for information relating to the disclosure of inventions.

5.8 SOLE SOURCE

Proceeding to a sole source contract may take more time than using the Open Bidding System (OBS). Sole source contracts may be entered into when it can be clearly demonstrated that:

- the estimated expenditure of the requirement does not exceed $25,000 (all costs including GST, travel and other allowable expenses);
- the need is one of pressing urgency in which delays would be injurious to the public interest;
- the nature of the work is such that it would not be in the public interest to solicit bids; and
- only one person or firm is capable of performing the contract (NOTE: This element does not infer that IP or copyright ownership is a valid reason for limiting the potential pool of contractors. Where the target company for a sole source contract is the holder of IP or copyright material critical to the project, an Advance Contract Award Notice (ACAN) may be posted to pre-alert competitors to the intention to use a sole source procurement mechanism. Competitors may self-identify as alternate bidders).

5.9 PARTNERING and JOINT-VENTURES

The development of specific items of equipment or operational procedures, may offer significant potential to benefit a Canadian industry, particularly with respect to its recognition as a regional (or national) center of expertise, and/or its future ability to sell products or services, domestically or abroad. Various partnering (or joint-venture) arrangements are possible.

Because partnering or joint-venture projects often give the appearance of sole source contracting, it is important to give full attention to the rules of contracting and to the procedures which are permitted, under government policy.

Partnering is a term commonly used in the field of "alternate service delivery". The core element of partnering, in this context, is the fact that a third party is involved in the delivery of a government service but remains isolated from the government in terms of legal liabilities or the ability to commit resources on behalf of the government. The basic underlying premise of partnering activities is that they may be appropriate in situations where the department need not perform all program functions but must still retain responsibility for ensuring that programs are delivered in accordance with departmental mandates. See DFO Intranet website `Http://142.130.7.52` (Finance and Administration - Partnering).

In the research context, the CCG may create specific partnering agreements with private sector organizations, where the objective is to share information and views on specific research themes, but not to participate financially in a jointly managed program or to provide exclusive access to that group of partners to the federal (CCG) research program. For example, in the case of the Canada Center for Marine Communications (CCMC) a consortium of industries combined to create their own research fund for items of mutual interest. The CCG was offered membership in the consortium as a member on its Board of Directors and various technical advisory committees. Because the consortium represented a wide range of interests and also represented a very powerful force in an otherwise disadvantaged region, there was a strong policy rationale to participate. There are no fees and no legally enforceable rights and obligations. Where research topics of common interest are identified, the CCG may choose to participate in an industry-generated research project, or it may decline participation if the project does not yield product of direct use to the CCG.

The essence of the partnering agreement is mutual benefit without mutual entanglement.

6. INTERNATIONAL COOPERATION

The Canadian Coast Guard has several mechanisms for international cooperation in research.

One mechanism revolves around operational agreements and committees, designed to address international protocols, treaties and standards. The International Maritime Organization and its sub-committees on environmental protection (MEPC) and the safety of life at sea (SOLAS) are prime examples. These internationally-funded bodies identify major issues and fund such activities as may be required to resolve them. The Canadian Coast Guard participates in these (and other) forum through committee membership and are directly involved in the exchange of information.

The second mechanism comprises country-to-country agreements established under the authority of the Department of Foreign Affairs, or department-to-department agreements, to participate in specific research cooperation. Pursuant to these umbrella agreements, the Canadian Coast Guard has also entered into project-specific agreements, known as Joint Research Project Agreement (JRPA), with its counterpart agencies in such countries as Finland, USA, UK, France and Japan. Historically, the CCG has also supported R&D co-operation with a wide range of other countries, approved by the Department of Foreign Affairs.

This section reviews the history and provides guidance to managers involved in international co-operation processes, with respect to this second group of cooperation mechanisms.

6.1 PURPOSE

JRPA's provide the basis for exchanging staff and information; co-ordinating programs; visiting experimental facilities; funding and conducting joint assessments. JRPA's are designed to promote co-operative research in marine transportation systems and technology.

6.2 PROCEDURES:

JRPA's are developed under the umbrella of a MOU between the respective governments or administrations. Branches wishing to establish a MOU with another government or administration should co-ordinate their request through the CCG R&D Office.

A JRPA may be initiated under an existing agreement by the project officer of each agency. Project officers prepare the documentation for a proposed project in the format displayed in ***Appendix "E"***. The proposal is presented to the responsible senior managers of each agency for approval and signature. To assure broad-based awareness of international initiatives, CCG Branches shall also ensure that the JRPA is included in their R&D plan and is reviewed by the CCG R&D Committee. Where timing is appropriate, the linkage between proposed international cooperation and the approval of new projects should be highlighted.

The CCG R&D Office assigns each **JRPA** a sequential number under the specific addendum that supports the project.

Original **JRPA's** are to be forwarded to and kept on file in the CCG R&D Office.

6.3 FUNDING

In most cases, a **JRPA** does not envisage the transfer of funds from one agency to the other, except as permitted under contracting regulations or formal approvals for Grants and Contributions.

Projects may be structured in such a way as to have individual components which can be contracted (domestically) individually, or contracted entirely in one country and requests for payment are invoiced on a milestone basis. Mechanisms for such projects are designed on a project-by-project basis. Contact the CCG R&D Office for specific details.

Canadian Coast Guard Branches sponsoring a JRPA R&D project are responsible for obtaining funding through the CCG R&D program and/or with assistance from TDC, NSS or other sources.

7. PROGRAM OF ENERGY RESEARCH AND DEVELOPMENT (PERD)

7.1 INTRODUCTION

Under the title of its Program of Energy Research & Development (PERD), the Department of Natural Resources (NR-Can) is the principal supporter of energy science and technology in Canada. The PERD program has historically been a major co-funder of specific marine transportation R&D, especially in the context of energy efficiency and offshore safety.

Management responsibilities for this function fall to the Office of Energy Research & Development (OERD). In fulfilling its objective, OERD supports the development of a diversity of environmentally and economically sustainable energy production and end-use technologies. To a lesser degree, it also provides a technical basis for codes, standards and regulations.

Most recently, under the auspices of the Climate Change Action Fund (CCAF), NRCan and OERD have also been promoting technological research oriented to the reduction of the six green house gases identified as being the most significant causes of climate change. In efforts to meet Canada's commitment to the target reductions identified at the Kyoto Convention on Climate Change, it is anticipated that this theme will be emphasized in the future.

This section outlines the procedures to be used by branches submitting, or wishing to submit proposals for PERD funding. It deals solely with process and does not contain information on technical programs. Only cursory information on how PERD is organized, Canada's energy strategy and the nature and content of R&D proposals is included here. The CCG R&D Office will deliver training sessions to interested parties, on a "by request" basis or staff can visit the PERD web site at `www.nrcan.gc.ca/es/oerd` or via the O-Canada portal.

7.2 OBJECTIVES AND PRINCIPLES

The formal objective of the Program on Energy Research and Development (PERD) is aimed at developing the science and technology for Canada to produce and utilize its energy resources in an environmentally responsible and cost-effective fashion.

PERD is governed by the following general principles:

- PERD responds to energy policies and other applicable government policies;
- PERD contributes to the overall government goals of wealth generation and sustainability;
- PERD serves the interests of all regions of the country, and builds on existing strengths,
- structures, programs and expertise; and
- PERD fosters alliances and partnerships among industry, universities and all levels of government to develop the energy technology base.

In fulfilling these principles, PERD seeks to:

- Sustain a diversity of environmentally compatible energy development and end-use efficiency options;
- Promote the consideration of the impact of energy-related technologies on the emission of the six most important green house gases and the impact on human health
- Support R&D for the short, medium and long terms; and
- Provide a technical basis for codes, standards and regulations to protect the public, workers and the environment.

7.3 STRUCTURE

Overall program responsibility for PERD rests with the Office of Energy R&D (OERD). The Office of Energy Research and Development (OERD) is also the secretariat to the Interdeprtmental Panel on Energy R&D (Panel). With advice from the Panel, the OERD issues an annual update to the Energy Priority Framework. Normally, this is a long-life document and updates are needed only to fine tune new directions. Periodically, the annual update will introduce major new policy decisions or reflect new technological interests.

A companion document to the Energy Priority Framework is the S&T Companion Document. Issued annually by the Panel, this document takes current S&T Policy into account and highlights the major technological directions inferred from the Energy Priority Framework, feedback from industry, and the science community. Taken together, these two documents comprise the marching orders for the PERD program.

A significant portion of the day-to-day management of the PERD activity has been delegated to the responsible agencies, departments, agencies and laboratories responsible for individual issue areas. The Panel has identified a wide range of research themes which address the major strategic energy directions (and technological challenges). These are identified as Programs at the Objective (POL) level. There are currently 30 (+-) POLs covering $58 Million of program funding. The POL groups operate as interdepartmental management teams, representing the individual federal departments with a specific mandate in each issue area. The (primary) responsible group or agency is charged with developing the requisite team of experts and interested players to comprise a tripartite (government/industry/university) team to manage each issue area.

Each POL has a stated objective which is definable, measurable, and finite in time. The programs or POLs are funded on a multi-year basis and the management team is asked to give direction to the program and to conduct the necessary research. Periodic evaluations assure the ongoing relevancy of the research (vis-à-vis the NR-Can energy priorities) and the value of the work to the community at large. Each year, approximately one quarter of the POLs will be evaluated for results to date, ongoing relevance, and ongoing funding. Over a four year period all POLs will have been evaluated and re-directed, as appropriate. The four year funding envelope permits POL partners to enter into agreements of sufficient duration to assure completion of the investigation. The four year period is also short enough to prohibit specific initiatives from gaining a life of their own, outside their ongoing relevance to the Energy Priority Framework.

A list of the POL issue areas is included as **Appendix "K".**

7.4 PROCESS

There is an annual cycle to address new directions, program development, planning, and review.

7.4.1 Strategy

The Panel develops the overall strategy for PERD in light of changes in policy direction and progress in R&D, and allocates (or re-allocates) funding accordingly.

7.4.2 Planning

The results of the strategy discussions are used by the POL leaders and participants for planning purposes. R&D proposals are submitted to the POL and are reviewed for their relevance to these priorities, their potential for success, and their potential for contribution to the Canadian economy.

7.4.3 Project Review

Proposals are submitted in the form of multi-year programs to the POL Committees, which recommend portfolios of R&D, with resources. to the Panel for final approval. Progress status and completion reports serve as the basis for each POL committee to assure that its work is on time and on track. The POL groups report annually to the Panel. The Panel reports annually on progress to the Minister of Natural Resources Canada and to the TB via the fall review.

In addition, the POL programs are reviewed on a four year cycle. This assures that the overall objective is being achieved. The four year timeframe allows sufficient time for a program-level effect to become evident. Shorter time horizons are not suited to assessing program impacts, Longer term horizons often permit programs to diverge from a stated objective or direction.

7.4.4 Timetable

Timing for PERD submissions are summarized in the CCG Annual R&D Calendar found in Section 3. In effect, the call letter is issued simultaneously with the CCG call letter. Responses are due slightly ahead of the CCG deadline. Separate documentation is required. Due to the need for shared funding, a matching project justification is also required for the CCG component of a project. Failure to achieve funding in one forum will affect the other.

PERD proposals are referred forward to the individual POL leaders. Due to the four year cycle of PERD POLs, it is often difficult to introduce new ideas in any one year. Forward planning and pacing of requests is required.

7.5 PANEL

7.5.1 Purpose

The Panel on Energy Research and Development is responsible for the interdepartmental coodination of advice on energy strategic directions, as well as being a primary information conduit for information arising out of PERD (and NR-Can) relating to energy policy.

7.5.2 Membership

Panel members are senior representatives (ADM level) of federal departments and agencies with responsibilities related to science and technology (see Annex 1 for listing). Members are nominated with authority to make commitments on behalf of their departments or agencies. The Panel reports to the Minister of who is responsible to Cabinet for the Program.

7.5.3 Responsibilities and Activities

The Panel is responsible for the strategic direction of PERD, for recommending the annual R&D plan (yearly Multi-Year Operational Plan - MYOP) to Treasury Board (TB) and for recommending Memoranda to Cabinet on PERD to Minister of Natural Resources Canada.

The Panel undertakes specific activities to fulfil these responsibilities, such as advising the Minister of Natural Resources Canada, responding to his directives, establishing PERD priorities, establishing funding envelopes for Tasks which may include reallocations, and holding strategy development workshops with representation from the private sector, provinces and academia.

7.6 OFFICE OF ENERGY RESEARCH AND DEVELOPMENT

The Office of Energy Research and Development (OERD) is the secretariat to the Panel, on whose behalf it organizes and manages PERD.

The Office manages the PERD planning process, liaisons with departments and receiving proposals, organizing and participating in Task and Program Committees, producing the annual MYOP. The Office compiles the deliverables report, the status and completion reports and produces progress reports for the Panel and for the Minister of Natural Resources Canada .

The Office participates in international energy R&D activities, represents Canada in the International Energy Agency's (IEA) Committee on Energy Research and Technology. OERD also hosts Canada's representation at the EU, Sub-Committee on Energy Environment and Sustainable Development.

7.7 PROGRAMS AT OBJECTIVE LEVEL (POL) COMMITTEES

In 1999, the PERD program was revamped. Issues covered under the former "task" groups were sub-divided and a new systems of Programs at the Objective Level (POL) was established. Almost all prior research themes were rolled-over to the new structure. Under the new structure, each POL will be evaluated for its success and ongoing relevance once every four years. In effect, each POL is "sunsetted" and its continuation is open to a "results-based" review.

Each POL Committee incorporates researchers and advisers from the specific community most interested in any given topic. The POL Committee provides the financial link between the Panel and departments, as well as the substantive link between departments, clients and scientists. The chair of each POL Committee is appointed by the Office of Energy Research and Development based on departmental responsibilities for implementing (or delivering) the results of PERD research, in a program context, or their outstanding scientific excellence in a specific field.

Each participating PERD department or agency is entitled to representation on any other POL Committee which might be of corollary interest. Other people, on advice of the POL Committee Chair, can be invited to become members.

The PERD call letters are issued annually. Departments expressing an interest in any issue area may submit proposals. The proposals are referred to the individual POLs for review and assessment. Due to the four year cycle inherent to the new POL evaluation process, new proposals may require some time to be integrated. Ongoing research projects within a given theme, and within the four year cycle, may be incorporated more quickly.

7.8 PERD ACTIVITY TIMETABLE - ANNUAL PLANNING CYCLE

April 01	Delegation of funds to departments, contingent on the existence of an interdepartmental MOU (DM-DM) for performance criteria and standards. NOTE: Funds are managed by departments; substance of POL R&D is managed by an (interdepartmental) POL group
June 30	Annual report or progress report from prior year due to POL leader
July 15	Call letter for documents from Panel Chairman/Secretary to Departments.
Summer	DFO/CCG PERD R&D coordination meeting to discuss call letter and strategic directions for POL proposals
Sept. 15	Deadline for CCG proposals to CCG R&D Office.
Sept - Oct	POL Submissions due at PERD. POLs meet to to confirm/modify program submissions from their members
October	Preliminary ARLU constructed and sent out to departments for input. Panel approved ARLU (meeting only if necessary).
Oct - Nov	Panel meeting. OERD presents a review of progress coincident with fall report to Treasury Board.
Nov - Feb	Evaluation of POLs. Each year 1/4 of PERD POLs are reviewed and the ongoing nature of the POL objective is re-assessed. New POLs may be created
Dec - Jan	PERD issues updated "Energy Priority Framework" as major direction to other departments for future year planning
Jan - July	PERD S&T Companion Document issued as elaboration of the long-term research directions required to meet the Energy Priority Framework

7.9 PROPOSAL AND REPORT PREPARATION

7.9.1 Procedures

Proposals and reports to PERD are to be completed in accordance with the nature, content and format and follow the guidelines for preparation established by the OERD. Detailed samples of the documentation are provided in ***Appendix "K"***.

During the life of each project, there are three kinds of documents:

- proposals,
- status reports, and
- completion reports.

These documents provide the basis for the management and accountability of PERD. The information in these reports also provides all the information needed by OERD for on-going reporting on PERD (to Parliament, central agencies, the public, etc.).

7.9.2 General Information

As PERD funds are provided on a cost-shared basis, all CCG R&D proposals under PERD must be matched with a CCG project proposal. These proposals must be submitted, with both proposal documents completed, to CCG R&D Office.

PERD/CCG proposals will usually take the form of a multi-year multi-disciplinary program. PERD and CCG research strategies require that the proposals have very specific outputs which can be measured and assessed for their overall program impact.

As the PERD POL Committees plan on a multi-year basis, any new proposals will tend to describe a program area not yet approved for funding. There will be a lead time, prior to being able to commence work on the project. This aspect requires that CCG officers think about their applications to PERD in terms of future year needs.

For projects approved with two or three years of funding, a Status Report is submitted during the second and third (if applicable) years. A Completion Report is needed when a program area is completed or terminated. Completion reports are due by June 30 of the subsequent year.

The deadline for PERD submissions to CCG R&D Office is September 15th of each year.

Managers may choose the size and duration of their proposed projects, although they should respect any advance guidance from POL Committees. Managers should also be aware that POL Committees, which make the initial proposal selections for PERD support, operate under the following guidelines:

- projects can receive approval for a maximum of three to four years (projects of longer duration must seek re-approval after three years);
- flexibility is encouraged to allow review and approval of some new proposals each year;
- aggregation of projects to a single program or theme should follow a technical logic;
- sub-programs may be used as necessary if they help strategic directions; and
- no R&D projects have automatic immunity from cuts but the distribution of any cuts is at the discretion of the Panel.

The Secretary of the Panel is instructed by the Panel Chairman to accept submissions only over the signature of the appropriate Panel member whose covering letter should confirm that all of their organization's proposals being submitted are subjected to the Canadian Environmental Assessment Act (CEPA) and are screened for "warranty" of scientific and technical soundness and endorsed by their organization.

NOTE: All contracts issued through Public Works & Government Services Canada (PWGSC), which have PERD funding, should be identified as such by the scientific authorities. See also Section 4-2, Publication Requirements.

7.10 BUDGET DELEGATION

7.10.1 Project Approval

The Panel meets in the fall of each year to decide on the multi-year program. The decisions are relayed to the departmental coordinator and, subsequently, to the CCG R&D Office. Information is then relayed to the appropriate R&D proponents. Managers, based on affirmative information are encouraged to proceed with the preparation of contract documents and work statements to ensure an early start at the commencement of the fiscal year. The DFO Finance and Administration HQ branch will enter the budget into the respective control accounts (by region and by business line).

7.10.2 Delegation of Funds

At the beginning of each fiscal year, PERD will transfer funds to DFO through an Interdepartmental Settlement Notice. The DFO Finance and Administration HQ in turn enters the respective budget levels to the affected R&D managers.

APPENDIX "A"

CCG R&D PROJECT JUSTIFICATION FORM

AND

IP QUESTIONNAIRE

Guidelines and Form

Electronic copy available by contacting CCG R&D Office

CCG R&D PROJECT JUSTIFICATION

FISCAL YEAR: 2002/2003

A) PROJECT TITLE: *(Title must be provided in both official languages)*

English ____________________

French ____________________

B) RESPONSIBILITY CENTRE: ____________________

C) BUSINESS LINE: ____________________

D) PROJECT CODE: *(For ongoing projects, provide code; for new proposals, indicate "new")* ____________

E) SERVICE LINE:

Service Line	Level of Effort (%)

F) CCG PROJECT OFFICER:

Name: ____________________
Title: ____________________
Directorate: ____________________
Mailing Address: ____________________
City: ____________ **Prov:** ________
Postal Code: ____________________
Telephone: ____________ **Fax No:** ____________
E-Mail Address: ____________________

G) FUNDING REQUESTED FOR 2002-2003 (CCG ONLY): $ ____________

SECTION 1 – PROJECT DETAIL

1-1) BACKGROUND: *(Problem/Need Statement includes Historical Information and is linked to Strategic Directions and Business Plans; Input to be recorded in R&D Annual Report)*

1-2) **PROJECT DESCRIPTION:** *(How the problem will be addressed; Identify multi-phases - Details to be included in Section 1-4)*

1-3) PROJECT BENEFIT(S): *(Failure to fully report on all applicable categories will result in the project justification form being returned for additional detail. Deadlines remain active. Projects not meeting annual scheduled deadlines will not be considered for that fiscal year)*

a) CCG (Internal) Program Benefits:

- ***Financial:***
- ***Environmental:***
- ***Social (if any):***

b) Client Impacts (Internal / External)

c) Linkage to other Federal Policies/Goals

1-4) DETAILED DESCRIPTION OF WORK & DELIVERABLES EXPECTED: *(Include details of process/techniques/methods to be employed & any reports, equipment or software as deliverables)*

1-5) PROJECT LINKAGES: *(Identify internal commitments/linkages for this project, including any relationship with other projects or activities being carried out by the CCG or other DFO sectors which may affect the take-up of project results or which may be affected by CCG actions)*

a) ***Internal:***

b) ***External Partners/Agencies:*** *((Describe external partners or partnership arrangements, including contributing funds and/or in-kind support, international maritime agencies/protocols; make special note of industry partnerships involving product development and/or university partnerships in major federal "knowledge" initiatives)*

1-6) INTELLECTUAL PROPERTY CONSIDERATIONS: *(Specify who will retain/release the patents/copyrights associated with any product of this project. Complete and attach Annex 1 of this form if project involves IP. To be specified in any PWGSC contract)*

1-7) OTHER CONSIDERATIONS: *(e.g. Federal policies relating to: public opinion surveys; international protocols; CEEA permits; health risk assessment*

1-8) PUBLICATION AND DISTRIBUTION PLAN: *(Specify output, intent to publish and include translation, printing and distribution costs in total project cost estimate)*

1-9) STRATEGY FOR REVIEW OF PROJECT PERFORMANCE & RESULTS: *(Identify name and title of person responsible for monitoring project; quantify project successes and indicate how performance measures will be collected and results implemented)*

a) ***Project*** *(projected benefits achieved [specify] support by clients or other agencies licensed value of patented technology)*

b) ***Project Management*** *(Project completed on time and within budget)*

1-10) SCIENTIFIC AUTHORITY: *(Name, Title and complete address of SA) NOTE: All technical projects leading to asset acquisition must be routed through ITS for contract performance. If resources are unavailable in ITS, that group will take the necessary steps to acquire the expertise for effective contract management). Please assure that the correct Scientific Authority is identified for technical projects.*

Name: ______________________________
Title: ______________________________
Directorate: __________________________
Mailing Address: _______________________
City: _________________ **Prov:** __________
Postal Code: ___________________________
Telephone: ___________ **Fax No:** __________
E-Mail Address: ________________________

SECTION 2 - PROJECT MILESTONES

2-1) PROJECT MILESTONE CALENDAR: *(Breakdown of entire duration of the project)*

MILESTONE DESCRIPTION	TARGET DATE
Statement of Work (Requisition to PWGSC)	
Request for Proposal to Industry	
Bid Evaluations	
Award of Contract	
Contract Milestones:	
Final Report Accepted	
PWGSC Contractor Evaluation	

2-2) SIGNATURE: *(Formerly Branch Responsibility Manager)*

CCG ACTIVITY MANAGER	DATE
______________________ *(Signature)* ______________________ *(Please Print Name)*	

SECTION 3 - PROJECT FUNDING REQUEST

3-1) R&D PROJECT COSTING SCHEDULE:

FUNDING SOURCE		FUNDING REQUEST ($000's)						
		TEC	**PRIOR YEARS Since _______**	**2002-2003 REQUEST**	**03/04**	**04/05**	**05/06**	**06/07**
1	CCG R&D Program Funds							
2	CCG Branch O&M Funds							
3	PERD Contribution							
4	NIF Contribution							
5	Other Source *(e.g. TDC – Please Specify)*							
6	Estimated Travel & Living: Internal, International, Workshops, Other (Please Specify)							
TOTAL FUNDING REQUEST								
Indicate Other In-Kind Costs e.g.: Ship Time, Helicopter Time, Salaries, etc. (NOT INCLUDED IN TOTALS)								

3-2) AUTHORIZATION TO SUBMIT: *(The signature of the authorized officer (Initiating Branch or Group Director) confirms that all sections of the project proposal have been properly and accurately completed and that there is overall program commitment to proceed with implementation of the project results.*

CCG DIRECTOR _______________________ *(Signature)* _______________________ *(Please Print Name)*	**DATE**

ANNEX 1 – QUESTIONNAIRES

A1-1) INTELLECTUAL PROPERTY QUESTIONNAIRE: *(As per Section 1-6 Intellectual Property Considerations, this section is to be completed for any project involved in Intellectual Property Ownership)*

Ownership of Intellectual Property in Connection with Crown Procurement and Research & Development (R&D) Contracts

This Form should be used in preparing every contract requisition involving any R&D, and any other procurement contract requisition if the work under the contract is likely to generate intellectual property (IP). It is strongly recommended that this form be completed unless absolutely sure that the work under the contract will not generate IP, which the Department and the Government of Canada may need for government purposes.

This Form will enable you to determine

- whether the Government of Canada or the Contractor will own the IP, or
- whether any conditions should be imposed on the commercialisation of the IP, if it was determined that the contractor will own the IP.

Unless otherwise stated, any reference to IP in this form will refer to the IP created and developed by the contractor under the Crown contract.

Inquiries concerning IP issues may be addressed to Legal Services or the Technology Transfer/IP Management Office [1].

Once completed, this Form should be attached to the contract requisition form.

Section 1

	Yes	No
a) Is the purpose of the contract to generate knowledge and information for public dissemination[2] ?		
b) Is the purpose of the contract to further develop existing Crown-owned IP [3] that DFO intends to transfer through licensing for commercial exploitation[4] ?		
c) Is the purpose of the contract to acquire a component or subsystem that will be incorporated into a complete system that DFO intends to transfer through licensing for commercial exploitation[4] ?		
d) Has the contractor declared in writing that he is not interested in owning the IP?		
e) Will the IP consist of material subject to copyright, other than computer software and all documentation pertaining to that software[5] ?		
f) Are there any statutes or regulations that may preclude contractor ownership of the IP[6] ?		

---

[1] Program Planning & Coordination, Science, (613) 990-9819

[2] Dissemination may be free of charge or for fees

[3] Such as developing a product based on department-owned technology, developing software based on department owned software or algorithms, developing data products, etc...

[4] If the answer is yes, please attach an annex briefly describing the transfer plan, and send a copy of the annex to the IP Management Office, Program Planning & Coordination, Science, (613) 990-9819

[5] Such as reports, studies, policy documents, etc...

[6] This item will be examined and if required addressed by DFO's contracting authorities or by the IP Management Office, Program Planning & Coordination, Science, (613) 990-9819

		Yes	No
g)	Does the department have any related prior obligations with respect to the IP, in connection for example with a prior contract or licence agreement?		
h)	Is Crown ownership of the IP required for national security reasons?		

If the answer to any of the questions is YES, the Crown is entitled to take ownership of the IP. If DFO wants to have control over the IP *the request for proposals will specify that the Crown will take title of the IP. Provide some information concerning the YES item(s) above.*

If the Crown is taking title of the IP, the remaining sections should not be completed.

If none of the answers to the above questions is YES, or if DFO does not want to have control over the IP, proceed to section 2.

Section 2

Are there any circumstances, other than those anticipated in a) to h) above, which may warrant the Crown taking title to the IP in the public interest?

If the answer is YES (provide a brief explanation), the department is required to seek and obtain prior approval from the Treasury Board.

If the answer is NO, the contractor will own the IP. Proceed to Section 3.

Section 3

When the IP will belong to the contractor, DFO may require that products incorporating or derived from the IP be made substantially in Canada and that any services incorporating or derived from the IP be provided substantially from a base in Canada. DFO may also require that such products or such services be marketed and sold within a certain period of time.

If you wish to have any such conditions on the commercial exploitation of the IP, please specify in the space provided below, otherwise go to section 4.

Conditions

Note: Conditions will only be included in the request for proposals if consistent with Canada's international trade agreements [7]

Section 4

If the Crown is not entitled to take ownership of the IP, and if DFO does not wish to impose any conditions on the commercialisation of the IP (see Section 3), the contractor will own the IP unconditionally. DFO must however secure, for purposes of the Crown, the right to use, reproduce and modify the IP, the right to have the IP used, reproduced and modified by others, the right to make and have made products incorporating the IP, and the right to dispose of any resulting products, without any obligations to the contractor and independently from the contractor.

---

[7] This item will be examined and if required addressed by DFO's contracting authorities, or by the IP Management Office, Program Planning & Coordination, Science, (613) 990-9819, in consultation with Legal ServicesS

APPENDIX "B"

BUDGET TRANSFERS
TRANSFERTS OU RAJUSTEMENTS

Guidelines and Form

Electronic copy available by contacting the CCG R&D Office

GUIDELINES FOR COMPLETION OF BUDGET TRANSFER FORMS

The budget transfer process is a mechanism to permit reallocation of funds within the CCG R&D plan budget. The CCG project manager will complete a budget transfer form to cancel or add a project or to change project budget levels. In any event, one project must offset another to remain within budget ceilings.

Changes requested to approved projects will be authorized at the Director/Director General level. When a new project is to be added to the plan, the project will be routed to the Commissioner or his designate for signature.

In accordance to the form attached, complete as follows:

- Identify fiscal year;
- Enter branch originator - responsibility centre description;
- Enter branch destination - responsibility centre description;
- Identify projects being affected by a budget level change;
- Under 'description', identify project numbers with their respective titles and reason for change;
- Route document for signature as indicated at bottom of form;

Use Budget Transfer screen Utiliser l'écran Transférer les budgets	*BATCH NAME:* *NOM DU LOT:*

FINANCIAL PLAN INPUT - TRANSFER OR ADJUSTMENTS
DONNÉES SUR LE PLAN FINANCIER - TRANSFERTS OU RAJUSTEMENTS
($'s)

FISCAL YEAR/ANNÉE FINANCIÈRE

BUDGET NAME/NOM BUDGET: Current 2002/03

FROM RESPONSIBILITY CENTRE DESCRIPTION:

DESCRIPTION DU CENTRE DE RESPONSABILITÉ DE:

TO RESPONSIBILITY CENTRE DESCRIPTION:

DESCRIPTION DU CENTRE DE RESPONSABILITÉ À:

	ACCOUNTING FLEXFIELD / CLÉ COMPTABLE FLEXIBLE						TRANSFER AMOUNT/MONTANT DU TRANSFERT (ENTER PERIOD 1 ONLY) (DANS LA PÉRIODE 1 SEULEMENT)
	RESP RESP	BUS LINE ACT. PRINC.	ALLOT Affec.	LOBJ ART. D'EXE	PROJECT PROJET	DEPT MIN.	
FROM/DE				XXXX			
TO/À				XXXX			

	ACCOUNTING FLEXFIELD / CLÉ COMPTABLE FLEXIBLE						TRANSFER AMOUNT/MONTANT DU TRANSFERT (ENTER PERIOD 1 ONLY) (DANS LA PÉRIODE 1 SEULEMENT)
	RESP RESP	BUS LINE ACT. PRINC.	ALLOT. AFFEC.	LOBJ ART. D'EXE	PROJECT PROJET	DEPT MIN.	
FROM/DE				XXXX			
TO/À				XXXX			

	ACCOUNTING FLEXFIELD / CLÉ COMPTABLE FLEXIBLE						TRANSFER AMOUNT/MONTANT DU TRANSFERT (ENTER PERIOD 1 ONLY) (DANS LA PÉRIODE 1 SEULEMENT)
	RESP RESP	BUS LINE ACT. PRINC.	ALLOT. AFFEC.	LOBJ ART. D'EXE	PROJECT PROJET	DEPT MIN.	
FROM/DE				X X X X			
TO/À				X X X X			

	ACCOUNTING FLEXFIELD / CLÉ COMPTABLE FLEXIBLE						TRANSFER AMOUNT/MONTANT DU TRANSFERT (ENTER PERIOD 1 ONLY) (DANS LA PÉRIODE 1 SEULEMENT)
	RESP RESP	BUS LINE ACT. PRINC.	ALLOT. AFFEC.	LOBJ ART. D'EXE	PROJECT PROJET	DEPT MIN.	
FROM/DE				X X X X			
TO/À				X X X X			

	ACCOUNTING FLEXFIELD / CLÉ COMPTABLE FLEXIBLE						TRANSFER AMOUNT/MONTANT DU TRANSFERT (ENTER PERIOD 1 ONLY) (DANS LA PÉRIODE 1 SEULEMENT)
	RESP RESP	BUS LINE ACT. PRINC.	ALLOT. AFFEC.	LOBJ ART. D'EXE	PROJECT PROJET	DEPT MIN.	
FROM/DE				X X X X			
TO/À				X X X X			

Description:

FROM/DE	**TO/À**
AUTHORIZED BY/AUTORISÉ PAR: DATE:	*AUTHORIZED BY/AUTORISÉ PAR: DATE:*

Is this transfer or adjustment permanent?/Est-ce que ce transfert ou ce rajustement est permanent? YES/OUI________ NO/NON_X__

If yes, ensure proper authorisations have been obtained and send all documentation to F&A for processing in the official database of budget allocations.

Si oui, s'assurer que les authorisations requises ont été obtenues et envoyer toute la documentation au bureau régional F et A pour l'entrée dans la base de données des allocations budgétaires.

Verified by FMA/Vérifié par CGF: Date:

APPENDIX "C"

R&D STATUS REPORTS

Guidelines and Sample Form

Electronic copy available by contacting the CCG R&D Office

GUIDELINES FOR COMPLETION OF R&D STATUS REPORTS

During a current fiscal year, project managers will be required to report on their progress throughout the year. The Year-end report provides the project's accomplishments and difficulties over the fiscal year just scompleted. It also serves as a Project Completion report which may be submitted any time during the year in which a project is completed. This report completes the project's file.

The first section of the status report form requests administrative detail on the project as recorded on the PJ. Additional information pertaining to the contribution being made by sources outside CCG (TDC, PERD, NSS, etc.) is required. The source and the amount should be included. Where "in-kind" services or equipment are being provided, a descriptive summary should be included.

The sections of the form are to be completed as follows:

- ***Identify Current Year:*** fiscal year
- ***Project Title:*** use approved project title
- ***Financial Coding:*** responsibility centre, business line, project code and service line; use approved codes
- ***Project Officer:*** name of project officer/manager
- ***Funding Requested:*** identify approved project budget allocation
- ***Funding Expended:*** identify total expenditures charged against this project for current fiscal year
- ***Contributions Received from Partners:*** Provide partner names (if any) and their financial and/or in-kind contributions
- ***Project Milestone Calendar:*** Milestone & Target Date columns should be same as was described on initial PJ with the Date Achieved to be completed
- ***Contractor(s) Name & Address:*** provide the full name(s) and address(es) of the company(ies) or agencies performing the work.
- ***Project Status/Accomplishments:*** describe the project progress to date, against the objectives. Identify achievements or difficulties being encountered. Explain any variance in expenditure from delegated budget. Is the project completed or on-going?
- ***Signature:*** project manager and date (also print name for legibility).
- ***Publication Follow-up:*** use strategy identified on initial PJ form and account for action.
- ***IP Follow-up:*** use strategy identified on initial PJ form and account for action.
- ***Project Completion:*** identifies completion of project and potential for follow-on work.

CCG R&D PROJECT STATUS REPORT

FISCAL YEAR: ________

Mid-year (October):	Third-Quarter (January):	Year-End (April):
		Ongoing: Completed:

A) **PROJECT TITLE:** ______________________

B) **RESPONSIBILITY CENTRE:** ______________________

C) **BUSINESS LINE:** ______________________

D) **PROJECT CODE:** ______________________

E) **SERVICE LINE:**

Service Line	Level of Effort (%)

F) **CCG PROJECT OFFICER:** ______________________

G) **FUNDING REQUESTED FOR 2001-2002 (CCG ONLY):** $ ________

H) **FUNDING EXPENDED FOR 2001-2002 (CCG ONLY):** $ ________

Status Report Form

---

1) **CONTRIBUTIONS RECEIVED FROM CCG PARTNER DURING CURRENT FY:**

Partner's Name	**Funds ($000)**	**Value-In-Kind ($000)**

2) **OUTSIDE PROJECT MANAGEMENT: TDC: ____ NRC: ____ OTHER: ____**

3) **PROJECT MILESTONE CALENDAR:** <for full duration of the project>

MILESTONES	DATE TARGETED	DATE ACHIEVED
Statement of Work (Requisition to PWGSC)		
Request For Proposal to Industry		
Bid Evaluations		
Award of Contract		
Contract Milestones:		
Final Report Accepted		
PWGSC Contractor Evaluation		

PUBLICATION AND DISTRIBUTION PLAN: **Description:** DFO Ref. #: **Value/Potential of Data:** TARGET DATE:	

4) **CONTRACTOR(S) FOR PROJECT:**

NAME	ADDRESS	PROVINCE	$'000

5) **PROJECT STATUS AND ACCOMPLISHMENTS:** (This portion is for inclusion in R&D Annual Report.)

6) **PUBLICATION FOLLOW-UP:** (Picture and/or graphic enclosed to accompany write-up in report)

7) **IP FOLLOW-UP**

Status Report Form

CCG PROJECT MANAGER	**CCG DIRECTOR**
(Signature)	*(Signature)*
(Please Print Name) *(Date)*	*(Please Print Name)* *(Date)*
Branch/Region/Group	*Branch/Region/Group*

6) **PROJECT COMPLETION** - Submit this page on project completion.

CCG PROJECT NUMBER:

1. Date of Final Acceptance:
2. Project Cost: (Total Estimated Cost - TEC)

Fund Source	TEC ($'000s)
CCG	
TDC	
NSS/NIF	
PERD	
Other:_______	

3. Copy of *Executive Summary and Recommendations* attached:
4. There is or will there be a follow-on project? If yes, provide project number and name.
5. Summary of project deficiencies/difficulties:
6. Recommendations regarding the conduct of future projects and carry-on activities:

APPENDIX "D"

LETTER OF AGREEMENT

Sample Document

Sample Letter of Agreement

Dr. W.A. Dalgliesh
Head, Quality Assurance
Institute for Research in Construction
National Research Council of Canada
K1A 0R6

Dear Mr. Dalgliesh:

Re: Medium Scale Field Indentation of Ice

This letter constitutes an agreement on the part of the Canadian Coast Guard (CCG) to provide a limited amount of funding to the institute for Research in Construction, National Research Council of Canada (NRCC) for support of a project to investigate local failure processes and forces generated between marine structures and large ice features. Testing will be carried out on natural arctic ice in the field with indentors up to 3m in area.

The role of NRCC in the project is that of project coordinator, i.e. translating technical requirements of federal government departments into the subject research project, locating out work to suitable performers. Memorial University of Newfoundland (MUN) also has a major role in the conception of the project and in solicitation of industry funding support, and will be contracted to carry our primary project management. GEOTECHnical Resources Ltd. (GEOTECH) of Calgary will play a substantial contractual role in refurbishing the powerful hydraulic actuator system and providing operational support in the conduct of the field testing.

The terms of the agreement are as follows:

1) The agreement is based on the proposal attached as Appendix A.

2) The estimated project duration is under two years, commencing in February 2XXX and completing in January 2XXX. The outputs and milestones of each of the fiscal years (FYs) in the project are given in Appendix A, paragraph 9.

3) The total cost of the project is estimated to be about $1,650 M as indicated in Appendix A, paragraph 14 and Appendix B, Budget. CCG agrees to pay $120,000 from FY XX/XX funds and $100,000 from FY XX/XX funds toward the cost of the project. CCG will also require funding from the Program of Energy Research and Development (PERD) in the amount of $152,000 for FY XX/XX and $50,000 for FY XX/XX toward the cost of the project.

4) NRCC will deliver to CGG a report on the outputs described in paragraph 9, section (a) of Appendix A. Reports on the outputs described in Appendix A, paragraph 9, sections (b), (c) and (d) will be delivered to CCG subject to availability of funding for FY XX/XX and FY XX/XX.

5) Arrangements for transfer of funds and payments are to be made between the following:
Ms. Cathy Billard
Administrative Services
Marine Programs and Performance Measurement (CCG)
(991-2504)

Mr. Ray Parent
Financial Services (NRC)
(993-9266)

6) The project officer responsible for this project on behalf of NRCC is Dr. R. Frederking and he is the individual to whom all matters relating to the substance of the work should be referred.

It is anticipated that the project manager will be Prof. I.J. Jordaan of MUN.

7) The officer responsible for this project on behalf of CCG is W. Ellwood who will be consulted regarding the work and will participate in the project as a member of the Project Steering Committee. Quarterly status reports will be provided in addition to the reports mentioned in Section 4 above.

8) This agreement can be amended only upon mutual consent of the delegated NRCC and CCG signatories.

If you are in agreement with the foregoing terms, would you please signify your acceptance as of the date of this letter by signing both copies of the letter and returning one to me.

Yours truly,

D. Normoyle
Director General
Marine Programs

Accepted: ______________________________ ______________________________
Mr. Keith Glegg Date
Vice President (Technology Transfer)
National Research Council of Canada

APPENDIX "E"

JOINT RESEARCH PROJECT AGREEMENT (JRPA)

Sample Document

JOINT RESEARCH PROJECT AGREEMENT
BETWEEN
FISHERIES AND OCEANS
AND
UNITED STATES DEPARTMENT OF TRANSPORTATION

SPILLED OIL TEMPORARY STORAGE DEVICE
TEST AND EVALUATION

Addendum II - JRPA #7

1. AUTHORITY

This Joint Research Project Agreement (herinafter referred to as JRPA #7) is entered into pursuant to the Memorandum of Understanding (MOU) dated June 18th, 1970, between the Department of Transportation of the United States of America and the Canadian Coast Guard, concerning Research and Development Cooperation in Transportation.

2. OVERALL OBJECTIVE

The overall objective of JRPA #7 is to increase the effectiveness of the United States and Canadian research programs, through joint research projects, information exchange, program coordination, personnel exchange, visits to experimental facilities, and joint assessments affecting the temporary storage devices (TSDs).

3. PROJECT OBJECTIVE

This Joint Research Project Agreement is directed specifically towards the development, test and evaluation of TSDs for use with spilled oil mechanical recovery systems.

4. METHODS OF COOPERATION

4.1 **General:** The following general methods of cooperation will be utilized under this JRPA:

4.1 a) Both parties will exchange reports embodying significant research results for their activities subject to restrictions on distribution of proprietary or other sensitive data.

4.1 b) Both parties shall cooperate to ensure that evaluation and data collection technique are mutually compatible insofar as the goals and scope of each evaluation allows.

4.1 c) Both parties will cooperate in studies to evaluate the benefits and cost of further field or laboratory experimentation.

5. PROJECT BACKGROUND

The U.S. Department of Transportation and the Canadian Coast Guard have regulatory responsiblities in the area of spilled oil recovery. This requires conducting research, development, test and evaluation to become familiar with current technology, promote the advancement of technology, provide equipment performance data for use in the procurement of spill response equipment, and other technological activities. Since there are many systems of common interest to both agencies, it is more effective and efficient to conduct joint projects.

6. PROJECT OFFICERS

6.1 Designation:

For Fisheries & Oceans:

Mr. John Latour,
Safety and Environmental Response Systems,
Canadian Coast Guard,
200 Kent Street, Ottawa, Ontario K1A 0E6
(613) 990-3376

For U.S. Department of Transportation:

Mr. Kenneth R. Bitting,
Environmental Safety Branch,
U.S. Coast Guard R&D Center,
1082 Shennecossett Road,
Groton, CT 06340-6096
(203) 441-2733

6.2 **Responsibilities:** Project Officers will be responsible for the achievement of the tasks and objectives set out in JRPA #7 and will be scheduled periodically to review the status and ensure the timely completion of all tasks.

7. COODINATION MEETINGS

Coordination meetings will be scheduled periodically to review the status and ensure the timely completion of all tasks.

8. JOINT PROJECT GOALS

The Canadian and United States Coast Guards will jointly test and evaluate towed TSDs in at-sea tests and at OMSETT. These tests will investigate the various attributes and characteristics of various devices such as towing in a seaway, launching, oil loading, offloading of viscous fluids. The Canadian Coast Guard will procure a TSD, transport it to Port Hueneme, California, for at-sea tests. The U.S. Coast Guard will pay for the at-sea testing, transport the TSD to OHMSETT , pay for oil pumping tests in that facility and return it to the Canadian Coast Guard.

9. REPORTING PROCEDURES

Reports on the JRPA #7 will be prepared annually and submitted jointly by project officers to the Director, Office of International Transportation Programs (DOT), and the Director, Rescue, Safety and Environmental Response (CCG), reporting the results of meetings and progress achieved during each preceding twelve-month period.

10. FINANCIAL ARRANGEMENTS

10.1 All arrangements are subject to the availability of funds within each agency.

10.2 Each party will bear the direct costs of its'own personnel, as well as, the cost of any language service it requires.

10.3 This JRPA does not envisage the transfer of funds from one agency to the other.

10.4 The host country will provide office space and other support services for the resident specialists of the other party as may be agreed upon by the Project Officers.

11. DISCLOSURE OF INFORMATION

Both parties shall make clear to all private firms and other government agencies participating in specific tasks, the fact that all information provided at review meetings will become publicly available, except to the extent that either agency may request that the information not be available to the public and that withholding the information is consistent with applicable domestic laws and regulations.

12. LIABILITY

Both parties will make every effort to ensure the accuracy of all data, but the accuracy of such data is not guaranteed. Each party shall use the other's data and analysis at its own risk and will not hold the other agency responsible in the event of claims arising out of the use of said data and analysis.

13. DURATION OF AGREEMENT

This JRPA will come into effect upon signing, and will remain in effect until completion of the Joint Project Goals specified in paragraph 8 or until terminated by either party. In the latter case, written notification with a termination date (normally sixty days) will be provided to the other party and task sharing or cost sharing projects ongoing at the time of termination will be completed in accordance with their original agreed terms and schedules.

14. AMENDMENTS

This JRPA may be amended at any time by mutual agreement, in writing.

Agreed:

For the United States Department of Transportation	For Fisheries & Oceans/ Canadian Coast Guard:
	Debra Normoyle Director, Safety and Environmental Response Systems
Date:	Date:

APPENDIX "F"

CCG/TDC CLIENT AGREEMENT

CLIENT AGREEMENT
GENERAL TERMS AND CONDITIONS

PURPOSE

This agreement, between the Canadian Coast Guard (CCG) and the Transportation Development Centre (TDC), establishes the General Terms and Conditions, responsibilities, and financial commitments of the two organizations with respect to the realization of research and development (R&D) projects.

For the purpose of planning and fiscal management, this agreement specifies, in Schedule I, those projects which will be jointly pursued and the funds which each organization has approved-in-principal for each project for the current fiscal year. The status of the projects listed in Schedule I will be formally reviewed by CCG and TDC in Ottawa during the first week of the second, third and fourth quarters. In the event of contract or project delays, project abandonment, changes in priorities or fiscal restraint, and **after** appropriate consultation, the parties to this agreement reserve the right to reduce or withdraw uncommitted funds by amendment to this agreement and appended schedules. Schedule I will be replaced effective April 1 of each year and amended as necessary.

Specific project approval is given and project management is facilitated through individual Project Work Agreements between TDC and individual CCG branches. Project Work Agreements will be appended to this agreement in Schedule II when signed by the responsible Branch officers.

RESPONSIBLE OFFICERS

Responsible Officers:

This agreement is signed on behalf of the parties by:

CCG - Director General, Marine Programs
TC - Director General, Research and Development

Program Coordination:

All R&D program-related coordination and administration of this agreement shall be the responsibility of the following officers:

CCG - Director, Planning and Performance Measurement
TDC - Chief, Transportation Systems Technology (ZCDGB)

Project Administration:

All project-related activity, administration and management will be the responsibility of:

CCG - Manager, R&D
TDC - Designated TDC Project Officer

MANAGEMENT

Program:

CCG shall be deemed to be the *client group*. The overall planning and coordination of projects carried out with or on behalf of CCG will be accomplished through joint consultation with and agreement of the parties.

Project:

The CCG Branch sponsoring or funding the project shall be deemed to be the *client*. The CCG client branch will designate a CCG Project Officer to each project. TDC will designate an officer as the TDC Project Officer for each project. These officers shall be named in the Project Work Agreement.

Each project will have a **project committee** consisting of, as a minimum, the designated CCG and TDC Project Officers. This committee will be responsible for providing the Scientific Authority guidance and direction, as necessary.

The **Scientific Authority (SA)** will be the TDC project officer. The roles and responsibilities of the SA are as defined in the Public Works and Government Services contracting-out policy. The SA shall also, at the interval stated in the Project Work Agreement or not less than quarterly, supply the CCG Project Officer with a complete status report on the progress, schedule, budget and exceptions of the project.

The TDC Project Officer will notify the CG Project Officer when deliverables or milestones are met. When satisfied the CG Project Officers will commence financial action. Delays in schedule, with proposed work-around plans and impacts shall be brought to the attention of the CG Project Officer without delay.

IMPLEMENTATION OF PLANNED PROJECTS

The parties to this agreement will expedite the implementation of the projects listed in Schedule I. Project Officers shall prepare a Project Work Agreement, (Schedule II -comprised of the *Statement of Work* and project details) for the approval of the project committee. On approval the TDC Project Officer will expedite contract award.

REPORTING

The TDC Scientific Authority shall keep the CCG Project Officers fully apprised of project changes and will forward the contractor's monthly progress report directly to him.

TDC will provide the CCG R&D Office, for internal distribution, monthly **R&D Progress Summary Reports** outlining the current progress and financial status of each project.

OWNERSHIP OF ASSETS

All equipment and software delivered shall be disposed of as defined in Schedule II to this agreement.

FINANCE

Schedule I to this agreement contains the approved-in-principal expenditure levels for each project. Schedule II, Project Work Agreements, includes a statement of committed funds and a schedule of payments and fund transfers for each of the parties to this agreement. TDC will make payments to the contractors in accordance with the terms and conditions specified in the contract. CCG Branches will transfer funds to TDC in accordance with the schedule specified in the Project Work Agreement subject to satisfactory completion of the works as witnessed by the SA.

Settlement of project accounts with TDC will be by means of a interdepartmental voucher, unless otherwise stated in the Project Work Agreement (Schedule II).

AMENDMENTS

Amendments to this agreement and the schedules appended hereto shall be made in writing after appropriate discussions to ensure that impact on the parties to the agreement and contractors is minimized.

Amendments to Schedule I to this agreement shall be effected by the officers responsible for Program Coordination after appropriate discussions and in consultation with affected branches/sections.

Amendments to Schedule II (Project Work Agreements) shall be effected by the Responsible CCG Branch and TDC officers

EXTENT OF AGREEMENT

This agreement remains in effect until terminated by mutual consent.

SIGNED

For Canadian Coast Guard	For Research and Development Directorate, Policy and Coordination
Director General Marine Programs	Director General (ADC)
Date:	Date:

CLIENT AGREEMENT

SCHEDULE I

NOTE:

Schedule I is based on the CCG R&D Plan approved by the DGs R&D Committee. It is formatted to display only those projects identified as joint-venture with TDC for implementation during the current fiscal year. Schedule 1 is prepared and distributed by the CCG R&D Office.

R&D PROJECT WORK AGREEMENTS
Between CCG Branches and TDC

SCHEDULE II

NOTE:

Schedule II contains the project related agreements between CCG Branches and TDC. These agreements are a mutual commitment to the funding and management of specific projects as listed in Schedule I.

Guidelines for Completing Agreements

Application:

A separate Schedule II will be completed for **each project** funded in part, or completely by CCG **and** for each project sponsored by CCG but funded or managed by TDC (CCG is the client but commits **no funds**).

Preparing the Agreement:

The OPI Branch project manager will, in cooperation with TDC, prepare the agreement for signature of the respective signing authorities. Attachment "A" of Schedule II will normally be initiated by TDC and agreed to by CCG; Attachment "B" will normally be initiated by CCG and agreed to by TDC.

Distribution of Documents:

The CCG R&D Coordinator or responsible project officer will maintain an original signed copy of the Project Work Agreement (Schedule II) on their respective branch file and forward a signed copy to: TDC; branch finance officer; and the CCG R&D Office.

Details:

Project Title:

The title shall be the same as appears on the CCG PJ forms and shall be in both French and English. Project names should not exceed 6 words.

TDC REF:

The project number assigned by TDC.

CCG REF:

The financial project code assigned by AWD and shown in Schedule I.

TDC PROJECT OFFICER:

The officer assigned by TDC to manage the project and be the Scientific Authority.

CCG PROJECT OFFICER:

The officer assigned by the CCG OPI Branch to be the "Client Manager".

CCG OPI BRANCH:

The CCG Branch assigned Client Management and, where applicable, Financial responsibility for the project.

STEERING COMMITTEE MEMBERS:

The names of persons from other CCG Branches that have requested that they be a part of the project due to their "Stakeholder" interests.

COMMITTED FUNDS:

a) Directly below the words "Committed Funds" indicate the total TEC for the project (all sources).

b) In the table type the dollar commitment to the project by CCG and TDC for each of the three years. Under "CY" complete "199 _" to indicate the current planning year. All dollars are in $000.

METHOD OF SETTLEMENT:

Optional - Complete this section only if a method other than "quarterly interdepartmental vouchers", as specified on page 3 of the agreement, is to be used.

DURATION OF PROJECT:

Provide an indication of the duration of this project.

STATEMENT OF DELIVERABLES:

This will normally be the "Contract Work Statement" as prepared by TDC in consultation with CCG. It is appended as Attachment "A". Signing the Agreement document indicates that CCG is in full accord with the proposed plan, work and expected deliverables.

OWNERSHIP:

Define who will assume ownership of Software and Hardware which is delivered under the terms of the contract. A copy of all reports shall be provided to CCG - on disk - for public dissemination.

CCG SERVICES AND COMMITMENTS:

In-Kind participation - The successful completion of a CCG R&D project will often require resources beyond those funded for in the R&D Program. A check mark should be placed against the type of resources required, including travel paid from Branch O&M funds. Details, including the type of resources, geographic location and timing should be included in Attachment "B". CCG project managers are responsible to gain agreement from Branch/Regional heads providing services.

OTHER TERMS AND CONDITIONS:

Optional - To be completed only where there are unique conditions not covered in the Agreement proper.

SIGNATURE:

This Branch Project Work Agreement will be signed by the authorized signing officer.

[ ] ORIGINAL
[ ] Amendment number ______
Fiscal Year _____

SCHEDULE II
CCG BRANCH PROJECT WORK AGREEMENT

PROJECT TITLE:

TDC REF:

TDC Project Officer:

CCG REF:

CCG Project Officer:

CCG OPI BRANCH:

Steering Committee Members:

COMMITTED FUNDS:

CY 199		CY + 1		CY +2	
CCG	TDC	CCG	TDC	CCG	TDC

METHOD OF SETTLEMENT:

DURATION OF PROJECT:

Start date:

End date:

Total months:

STATEMENT OF WORK AND DELIVERABLES:

As per Attachment "A"

OWNERSHIP:

CCG SERVICES AND COMMITMENTS:

[√] and attach detail as Attachment B;
- [ ] Ship time
- [ ] Helicopter time
- [ ] Personnel/Technical experts
- [ ] Other equipment
- [ ] Travel

OTHER TERMS AND CONDITIONS:

Signed by:

CCG BRANCH AUTHORITY
Date:

TDC AUTHORITY
Date:

ATTACHMENT "B"

Schedule II

CCG SERVICES AND COMMITMENTS:

☐ Ship time
☐ Helicopter time
☐ Personnel/Technical experts
☐ Other equipment
☐ Travel

Detail:

Signed:

____
For CCG BRANCH
Date:

APPENDIX “G”

PREPARATION OF CONTRACT WORK STATEMENTS

Guidelines and Format Sample

Guidelines for the Preparation of Contract Work Statements

CANADIAN COAST GUARD

WORK STATEMENT

PROJECT TITLE IN CAPITAL LETTERS
AND UNDERLINED (6 WORDS ONLY)
(date)

1. INTRODUCTION

Include an introduction to provide all parties a common appreciation of the background, rationale and expectations for the project, and include any special characteristics. The background section of the project justification may be sufficient.

2. OVERALL OBJECTIVE

Same as for project justification.

3. PROJECT OBJECTIVE(S)

Same as for project justification.

4. DETAILED STATEMENT OF WORK

Although not applicable to all work statements the line which follows can usually be used. "The work constituting this project shall include the following elements and shall be consistent with the proposal entitled (type title), dated (date)":

***NOTE:** When there is a proposal (i.e. unsolicited or RFP), identify variations in work statement with contractor's proposal, where appropriate.*

4.1 Develop a detailed work plan, activity schedule, cash flow projection, project management control and documentation procedures within (so many weeks) of effective commencement date. (The requirements listed herein should be in proportion to the complexity of the project.)

4.2 List the remaining work items in point form in the order in which they are naturally performed and/or which would result in the completion of milestone events.

4.3 Provide reports (progress, interim and/or final) as described in Section 9 "Reporting Requirements".

4.4* Provide hardware or prototype equipment or any deliverable other than a report as described in Section 10 "Other Deliverables".

5. ROLE OF OTHER PARTY (IES) (optional)

When, in order to mount the overall project, other organizations are contracted by CCG, their roles and responsibilities vis-a-vis this project should be summarized.

6. SPECIAL INSTRUCTIONS (optional)

Examples of special instructions would include: limits on parameters to be investigated, consultation on decisions, adherence to special conditions.

7. PROJECT ADMINISTRATION

"The Director General of the Canadian Coast Guard functional Branch which is sponsoring the project will appoint a Project Officer to manage the project on behalf of CCG. A committee (steering, progress review or technical monitoring) may be convened at the invitation of the Director General to counsel the Project Officer, to monitor progress and comment as necessary on the envisaged work to be done."

State any other responsibilities of CCG project officer as well as those of performing organization's staff and others involved in performing, managing and reviewing work.

Contract administration will be provided by Government Supply Canada (GSC). (If GSC contract.)

8. PROJECT CONTROL

"The project shall be controlled by a CPM, PERT, SPEC or equivalent responsibility assignment and scheduling method. Budgets for each project element should be prepared at the start of the project and monitored regularly to ensure resources available are compatible with estimates to complete work." The requirements listed herein should be in proportion to the complexity of the project.

9. REPORTING REQUIREMENTS

9.1 PROGRESS REPORTS

To facilitate the management of the project, a minimum of three (3) copies (or as mutually agreed upon), of the progress reports shall be submitted on a (monthly/bimonthly) basis to the CCG project officer (with a copy to the GSC Science Procurement Manager, if a GSC contract). These reports shall be short and concise, not exceeding two typewritten pages.

The format of the progress report should be as follows:

9.1.1 A list of all persons actively working on the project and their functions;
9.1.2 Current status of work, containing an estimate of the percentage of work completed, the percentage of time elapsed, and a clear statement as to whether the project will or will not be completed within the established schedule and the agreed financial limitation;
9.1.3 Work accomplished since the period last reported;
9.1.4 Problem areas, if any;
9.1.5 Work to be addressed and expected to be achieved in the coming months;
9.1.6 Any action required by CCG;

9.1.7 Contact made with outside agencies or companies, or major visits planned in connection with the project; and

9.1.8 Other important information deemed to be appropriate.

9.2 PUBLICATION STANDARDS

9.2.1 "All reports with the exception of progress reports shall be prepared in accordance with the format determined by the project officer at the contract negotiation stage." It is preferred all reports are prepared in accordance with the "CCG Publication Standards for R&D Contractors (TP 6569)". ***Contact R&D Office for copy***.

9.3 DELIVER SCHEDULE OF REPORTS

9.3.1 "Reports shall be submitted as follows:

a) 5 copies of ***draft*** summary reports and **Report Documentation Form** (in both official languages) and **draft final report** (in contractor's working language) **(x)** weeks/months after contract signing date;

b) CCG comments on ***draft*** reports to contractor (y) weeks/months after receipt;

c) 25 copies of ***summary*** reports (20) ___ English and (5) _French) ___ weeks/months after receipt of CCG's comments; and

d) __ (10 copies MINIMUM) of ***final*** reports (in contractor's working language) (x) weeks/months after receipt of CCG's comments. All reports are to be accompanied by ONE (1) camera-ready master suitable for reproduction.

NOTE: Quantities of reports may vary. Summary reports must be in both official languages and camera-ready copies supplied. Computer disks may be required.

10. OTHER DELIVERABLES (optional)

If there are any deliverables other than a report, such as hardware or prototype equipment, mention what they are, when and where they are to be delivered.

NOTE: Additional reference for the preparation of the Statement of Work can also be made to the Treasury Board Administrative Policy Manual.

Format of Contract Work Statement

CANADIAN COAST GUARD

WORK STATEMENT

PROJECT TITLE IN CAPITAL LETTERS
AND UNDERLINED (2 LINES MAX)
(date)

1. INTRODUCTION

2. OVERALL OBJECTIVE

3. PROJECT OBJECTIVE(S)

4. DETAILED STATEMENT OF WORK

5. ROLE OF OTHER PARTY (IES) (optional)

6. SPECIAL INSTRUCTIONS (optional)

7. PROJECT ADMINISTRATION

8. PROJECT CONTROL

9. REPORTING REQUIREMENTS

9.1 PROGRESS REPORTS

9.2 PUBLICATION STANDARDS

9.3 DELIVER SCHEDULE OF REPORTS

10. OTHER DELIVERABLES (optional)

APPENDIX “H”

INTELLECTUAL PROPERTY POLICY

POLICY ON
TITLE TO INTELLECTUAL PROPERTY ARISING UNDER CROWN PROCUREMENT CONTRACTS

Introduction

The primary objective of Crown Procurement Contracts is to receive the deliverables contracted for, and to be able to use those deliverables, and any Intellectual Property arising by the virtue of such Crown Procurement Contracts for Government of Canada activities. The Government of Canada's *Contracting Policy* further states that officials are to achieve best value for money and to seek the optimal balance of benefits to the Crown and the Canadian people through its purchases. As part of this commitment, the Government of Canada has made specific provisions for social and economic development objectives to be pursued through procurement.

One of the socio-economic objectives pursued through Crown Procurement Contracts is the commercialization of Intellectual Property by the private sector to create jobs and generate economic growth. The revised policy on *Title to Intellectual Property Arising Under Crown Procurement Contracts* sets out a framework for the Intellectual Property arising by virtue of such Crown Procurement Contracts to be vested in the Contractor, while ensuring the Crown's ability to use the deliverables contracted for and the Intellectual Property for all Government of Canada activities, including future contracts and procurements, and to protect the broader public interest.

While this policy provides for specific exceptions for the Crown to take title to Intellectual Property arising under Crown Procurement Contracts, other circumstances in the public interest may, from time to time, warrant the Crown taking title to Intellectual Property beyond the exceptions cited under Section 6. In these circumstances, Responsible Departments are required to seek and obtain prior approval from the Treasury Board.

Underlying Principles

The Government of Canada's primary objective in entering into Crown Procurement Contracts is to receive the deliverables contracted for, and to be able to use those deliverables, and any Intellectual Property arising by the virtue of such Crown Procurement Contracts for Government of Canada activities.

The Government of Canada has an overall objective of promoting economic growth and job creation in Canada and has made specific provision for social and economic development objectives to be pursued through procurement.

The Government of Canada believes that Commercial Exploitation of Intellectual Property contributes to economic growth and job creation.

The Government of Canada believes that Commercial Exploitation of Intellectual Property is best achieved by the private sector.

1. Policy Objective

The objective of this policy is to increase the potential for Commercial Exploitation of Intellectual Property developed by a Contractor in the course of a Crown Procurement Contract by having the ownership of such property vest with the Contractor, subject to "exceptions" set out in Section 6.

2. Authority

The authority for this policy is found in Section 7(1) *(a)* of the *Financial Administration Act*.

3. Application of the Policy

3.1 This policy applies to all Departments, unless specifically exempted by an Act of Parliament or by Treasury Board.

3.2 This policy applies to Intellectual Property that arises by virtue of a Crown Procurement Contract and that is developed by the Contractor.

3.3 This policy does not affect existing ownership rights of the Crown, the Contractor, or a third party of their respective Background.

3.4 This policy does not affect Intellectual Property ownership rights between the Contractor and any of its subcontractors, except that the Contractor shall be required to obtain from its sub-contractors those ownership or licence rights that the Contractor agrees, in the Crown Procurement Contract, to provide to the Crown.

3.5 This policy does not apply to the ownership of, or the right to use, any trademarks or trade names.

3.6 This policy does not apply to personal information as defined under the Privacy Act (R.S.C.) c. P-21, nor to Foreground in any compilation or database, containing personal information or Crown-supplied information if that Foreground cannot be exploited without using that personal information or Crown-supplied information.

3.7 This policy replaces and supersedes the Treasury Board policy entitled *Title to Intellectual Property Arising under Crown Contracts* (September 1991), as well as the Treasury Board Circulars dated October 30, 1991 and December 18, 1991.

4. Definitions

All defined terms in this policy shall have the meaning given in this section.

Background: all Intellectual Property that is not Foreground.

Commercial Exploitation: any use, transformation and/or dissemination of the Foreground that generates, or is intended to generate, revenues.

Contracting Authority: the appropriate Minister as defined in the *Financial Administration Act*, or the departmental corporation as defined in the *Financial Administration Act*, entering into a Crown Procurement Contract.

Contractor: any party or parties, collectively, to a Crown Procurement Contract not defined as the Crown.

Crown: Her Majesty the Queen in Right of Canada, including departmental corporations as defined in the *Financial Administration Act*.

Crown Procurement Contract: an agreement between the Crown and a Contractor for the acquisition by, or provision to, the Crown of good(s) and/or service(s).

Department: department as defined in the *Financial Administration Act.*

Deputy Head: the deputy head, the chairperson, the president or other chief executive officer of a Responsible Department and, except in Section 10, any person having the appropriate capacity to act on her or his behalf.

Foreground: all Intellectual Property first conceived, developed, produced or reduced to practice as part of the work under a Crown Procurement Contract.

Intellectual Property: for the purposes of this policy, any rights resulting from intellectual activity in the industrial, scientific, literary, or artistic fields including all intellectual creation legally protected through patents, copyright, industrial design, integrated circuit topography, and plant breeders' rights, or subject to protection under the law as trade secrets and confidential information. Intellectual Property does not include prototypes or any other physical embodiments of intellectual creation when such physical embodiments are deliverables of a Crown Procurement Contract.

Responsible Department: the Department of the Contracting Authority or, when the good(s) and/or service(s) being acquired under the Crown Procurement Contract are for another Department, that Department.

5. General Procedures on the Title to Intellectual Property Arising under Crown Procurement Contracts

5.1 It is the policy of the Government of Canada that the Contractor be the owner of any Foreground created by the Contractor arising by virtue of a Crown Procurement Contract, subject to "Exceptions" as set out in Section 6.

5.2 The Crown may require a royalty-free licence to have the right to use, or have used by a third party, the Foreground owned by the Contractor for Government of Canada activities. The right to use the Foreground could include, without being limited to, the right to manufacture, reproduce and modify.

5.3 The Crown may require Commercial Exploitation of the Foreground in Canada and/or within a specific period of time, to the extent that the requirement is consistent with Canada's trade agreement obligations. The detailed requirements can be specified in the contract or in a separate agreement between the Crown and the Contractor.

5.4 When the Contractor will own the Foreground, the Contracting Authority should:

5.4.1 in a competitive bidding situation, indicate in the solicitation documents the fact that the Contractor will own the Foreground and, if any, the terms of the licence required by the Crown, and, if any, the requirements for commercialization in Canada and/or within a certain time frame;

5.4.2 in the case of sole source contracting, indicate to the Contractor, in writing, in advance of negotiations with the Contractor, the fact that the Contractor will own the Foreground and, if any, the terms of the licence required by the Crown, and, if any, the requirements for commercialization in Canada and/or within a certain time frame.

5.5 In instances where the Crown owns the Foreground as set out in Section 6, the Crown may require that the Contractor provide, at the Crown□s expense, any reasonable assistance to enable the Crown to seek and secure Intellectual Property rights in the Foreground.

6. Exceptions to Contractor Ownership

Under the Crown Procurement Contract, the Crown may own the Foreground for the following reasons:

6.1 national security;

6.2 where statutes, regulations, or prior obligations of the Crown to a third party or parties preclude Contractor ownership of the Foreground;

6.3 when the Contractor declares in writing that he/she is not interested in owning the Foreground;

6.4 where the main purpose of the Crown Procurement Contract, or of the deliverables contracted for, is:

6.4.1 to generate knowledge and information for public dissemination;

6.4.2 to augment an existing body of Crown Background as a prerequisite to the transfer of the augmented Background to the private sector, through licensing or assignment of ownership (not necessarily to the original Contractor), for the purposes of Commercial Exploitation;

6.4.3 to deliver a component or subsystem that will be incorporated into a complete system at a later date (not necessarily by the original Contractor), as a prerequisite to the planned transfer of the complete system to the private sector (not necessarily to the original Contractor), through licensing or assignment of ownership, for the purposes of Commercial Exploitation.

6.5 where the Foreground consists of material subject to copyright, with the exception of computer software and all documentation pertaining to that software.

7. Procedures for the Use of Exceptions

7.1 When the Crown intends to own the Foreground by invoking an exception in Section 6 of the Policy, the Contracting Authority should:

7.1.1 in a competitive bidding situation, indicate in the solicitation documents the fact that the Crown will own the Foreground or, where relevant, the specific components of the Foreground that the Crown will own, and set out the exception being invoked; or,

7.1.2 in the case of sole source contracting, indicate to the Contractor, in writing, in advance of negotiations with the Contractor, the fact that the Crown will own the Foreground or, where relevant, the specific components of the Foreground that the Crown will own, and set out the exception being invoked.

7.2 The Crown may take ownership of the Foreground when the bidder or potential Contractor chooses not to own the Foreground and makes a declaration in writing to that effect.

8. Treasury Board Exemption

8.1 The Crown may take ownership of Intellectual Property in circumstances where it is justified but not provided for in Section 6, and the Responsible Department has sought and obtained Treasury Board approval for such an exemption.

9. Licensing of Crown Intellectual Property

9.1 In the event that the Crown takes ownership of the Foreground, the Crown should not unreasonably refuse to grant a licence to the Contractor for the Contractor's use of the Foreground. The Contractor should make a request in writing for such a licence no later than 30 working days following the completion of the Contract. The Crown shall respond, in writing, to any request for such a licence within a reasonable period of time after receiving the request in writing. If such a request is refused, the Crown's response must provide an explanation for the refusal.

9.2 When the Crown takes ownership of the Foreground through the use of exceptions described in Sections 6.4.2 or 6.4.3, and in the event that the Crown grants (not necessarily to the original contractor(s)) a licence for the Foreground, other than a licence granted as part of the transfer of the final product or complete system to the private sector, the licence granted must be royalty-free. When the Crown takes ownership through the use of any other exception, the Crown may require royalties for the licence.

9.3 The Crown may grant a licence to the Contractor for the Contractor's use of the Crown's Background, when the Crown's Background is required to use or commercialize the Foreground. The Crown shall respond in writing to any request for such licence within a reasonable period of time after receiving the written request. If such a request is refused, the Crown's response must provide explanation for the refusal.

10. Supervision of Policy Implementation

10.1 Deputy Heads are accountable for the implementation of this policy.

10.2 Deputy Heads must ensure that adequate resources are allocated to the orientation and training of their personnel in the implementation of the policy, and to ensure that reporting responsibilities under this policy are met.

10.3 For the purpose of monitoring the application of the policy as set out in Section 11 of this Policy, the Contracting Authority should maintain a record of all Crown Procurement Contracts valued over the threshold for solicitation of bids as set out in the Government Contracts Regulations, and specify the contracts that provide for Contractor-owned Foreground, the contracts that provide for Crown-owned Foreground, and the exception(s) invoked, other than Section 6.5.

N.B.: Because Section 6.5 does not, itself, provide for Crown ownership of Foreground related to computer software and its documentation, if the Crown is to own such Foreground by invoking an exception set out in Sections 6.1, 6.2, 6.3 and 6.4, the Contracting Authority should record which of those exceptions is being invoked.

10.4 Contracting Authorities are responsible to ensure that solicitation documents and Crown Procurement Contracts are consistent with this policy. However, Responsible Departments remain responsible for decisions regarding the ownership of Foreground. The model clauses provided in Appendix A reflect the objectives and intent of the policy and could be used in Crown Procurement Contracts.

11. Evaluation and Monitoring

11.1 Industry Canada and the Treasury Board Secretariat will be responsible for monitoring the application of the policy, with a focus on cases where exceptions were invoked.

11.2 Industry Canada and the Treasury Board Secretariat will be responsible for an interdepartmental evaluation of the policy in the third year following its coming into force. Such evaluation will examine, among other things, the factors that affected the process of implementation and management of the policy and its impacts, both intended and unintended, upon the Contractors and the Crown.

APPENDIX "I"

CCG R&D PROJECT REPORT PUBLICATION DATA FORM

Guidelines and Form Sample

Refer to Sections 4.1, 4.3.2

PUBLICATION DATA FORM GUIDELINES

1. **Publication No.:** Leave Blank
2. **Project No.:** CCG project code assigned.
3. **Recipient's Catalogue No.:** Leave Blank. Reserved for the use of publication recipient.
4. **Title and Subtitle:** Title must be identical to the title on the cover and the title page. When a publication is prepared in more than one volume, repeat the title, and include the volume number and subtitle for the specific volume.
5. **Publication Date:** Date of publication.
6. **Performing Organizational Document No.:** Number assigned by DFO Communications Office.
7. **Author(s):** Give name(s) in conventional order (first name or initials followed by surname.)
8. **DFO File No.:** Provided by CCG Project Manager.
9. **Performing Organizational Name and Address:** Give contractor's name, street, city, province and postal code. (In house, OPI performing work.)
10. **PWGSC File No.:** Provided by the CCG Project Manager.
11. **PWGSC Contract No.:** Provided by CCG Project Manager.
12. **Sponsoring Agency Name and Address:** Contractor cites main sponsors (OPIs) and their addresses including postal code.
13. **Type of Publication or Report and Period Covered:** To distinguish between types of publications or reports available for a given title, specify interim, summary, final, etc., and, if applicable, inclusive dates for the work covered.
14. **Sponsoring Agency Code:** Reserved for use of CCG (Office of Primary Interest).
15. **Supplementary Notes:** Project Officer enters relevant information not included elsewhere, such as: Summary of..., Translation of..., Presented at conference of..., To be published in..., This publication supplements (or replaces)..., Tentative disposal date may be entered such as: Disposal date YY-MM-DD (92.09.31).
16. **CCG Project Officer:** Insert name of CCG Project Officer.

17. Abstract: An abstract takes one of two forms; descriptive or informational. It is a brief (200 words or less) factual summary of the most significant information contained in a publication or reports.

- **Descriptive abstract:** A descriptive abstract states the scope and purpose of the publication. It does not give any information from the publication. The descriptive abstract's style is terse and particularly well suited to manuals.
- **Informational abstract:** Information provided follows a specific format for reports and studies so the reader can learn what is essential without reading the report.
- **Purpose:** Statement of the primary objectives and the scope of the report or study.
- **Methods:** A description of the techniques and approaches by which results/findings were obtained.
- **Results/finding:** The most important part of the abstract, these may be experimental or theoretical results obtained, data collected, effects observed, etc. When they are too numerous for all to be listed, selection should be based on one or more of the following: new and verified events, fundings of long-term value, significant discoveries such as those contradicting previous theories of those relevant to a practical problem.
- **Conclusion:** A description of the implications of the results\finds and their relation to the purpose of the report or study.

Use complete, connected sentences, active verbs and third person. Use standard nomenclature or define unfamiliar terms, abbreviations and symbols the first time they appear in the abstract.

18. Key Words: There are precise technical terms that identify the major concept of the research and are used as index entries for cataloguing and for library searches.

19. Distribution Statement: Unless otherwise instructed, use the following: Limited number of copies available from Coast Guard Research and Development upon request.

20. Security Classification (of this publication): Unless otherwise instructed enter "unclassified".

21. Security Classification (of this page): Unless otherwise instructed enter "unclassified".

22. Declassification Date: Provided by the CCG Project Manager (if applicable).

23. No. of pages: Insert total number of pages, including front matter and appendices.

24. Price: Unless otherwise instructed, leave blank.

Publication Data Form

Canadian
Coast Guard

La Garde côtière
canadienne

PUBLICATION DATA FORM

1. Publication No. ISBN-	2. Project No.	3. Recipient's Catalogue No.
4. Title and Subtitle Research and Development Procedures Manual (E)		5. Publication Date January 2001
		6. Performing Organization Document No.
7. Author(s) Wayne Ellwood, Naomi Katsumi		7. DFO File No: AWD-2204-6819-Y2K1
9. Performing Organization Name and Address CCG R&D Program Canadian Coast Guard Room 5-E-242, 200 Kent Street Ottawa, CANADA K1A 0E6		10. PWGSC File No:
		11. PWGSC or DFO Contract No:
12. Sponsoring Agency Name and Address as above		13. Type of Publication and Period Covered: Management Procedures
		14. Sponsoring Agency Code: AWD-2204-6819-Y2K1
15. Supplementary Notes		16. Project Officer: Wayne Ellwood Manager, CCG R&D Program

17. Abstract

Internal management procedures applied in the management of the CCG R&D Program and providing direction to CCG personnel in the management of R&D contracts, inter-departmental funding programs, industry joint-ventures, partnerships and international cooperation.

18. Key Words R&D Program, R&D Management, Coast Guard R&D, Procedures.	19. Distribution Statement Standard distribution includes internal personnel, Personnel in related fields in other federal departments and to the public (on request).

20. Security Classification (of this publication)	21. Security Classification (of this page)	22. Declassification (date)	23. No. of pages	23. Price
open circulation	open circulation		140	free

APPENDIX "J"

DFO LIBRARY RETENTION SERVICE

Sample Memo Form

Government of Canada Gouvernement du Canada

MEMORANDUM NOTE DE SERVICE

To
A

DFO Library/La bibliothèque du MPO
10th floor north/10e étage nord
200 Kent St./200, rue Kent

From
De

Project Manager/Gestionnaire de projet

Security Classification - Classification de sécurité

Our File / Notre référence

Your File / Votre réference

Date:

Subject
Object

REPORT RETENTION REQUEST

Enclosed are two copies of a Coast Guard R&D final report entitled, *report title*. Please retain these two copies in DFO's library.

Anyone wishing further information or copies of this report, please have them contact *(project manager's name & phone number)*.

DEMANDE DE CONSERVATION DE RAPPORT

Vous trouverez ci-joint deux copies d'un rapport final de R et D de la Garde côtière intitulé : *titre de rapport*. Veuillez conserver ces deux copies à la bibliothèque du MPO.

Toute personne qui désire un complément d'information ou des copies de ce rapport doit communiquer avec *(nom et numéro de téléphone du gestionnaire de projet)*.

APPENDIX "K"

LIST OF PERD PROGRAMS
AT
OBJECTIVE LEVEL (POL) GROUPINGS

PERD POL STRUCTURE

Strategic Directions and Objectives
Strategic Intent 1: Fulfill federal government responsibilities while maximizing economic benefits and reducing environmental consequences from the expansion and diversification of Canada's oil and gas production
Strategic Direction 1: Provide S&T to extend and diversify Canada's onshore oil and gas production and conversion to refined petroleum products that reduce costs and mitigate adverse environmental consequences while reducing GHG intensity
1. Production of in situ and surface mined oil sands bitumen.
2. Production of heavy and conventional oil.
3. Conversion of bitumen, heavy oil, natural gas and waste oils into clean, refined petroleum products.
4. Non-conventional sources of natural gas including hydrates, coal bed methane and tight gas.
Strategic Direction 2: Provide S&T to extend and diversify Canada's oil and gas production from offshore and northern regions through the development of the science and technology needed for standards and regulations, and to reduce costs and mitigate environmental and safety concerns
1. Offshore environmental factors for regulatory, design, safety and economic purposes.
2. Regulatory requirements for the eventual production of oil and gas in the north.
3. Regulatory requirements for the safe and efficient transportation of oil and gas by tankers, and for other occupational and public safety standards.
4. Regulatory requirements for offshore drilling and production wastes, assess cumulative effects, and remediate accidental offshore discharges and spills.
Strategic Direction 3: Provide S&T to address cross-cutting environmental and safety issues to support
the production of Canada's onshore and offshore oil and gas resources.
1. The regulation and reduction of GHG and other atmospheric emissions, primarily from flaring.
2. The regulation and maintenance of aging pipelines and the regulation and construction of new pipelines in an economic and environmentally acceptable manner
3. The remediation of groundwater and soil issues.
Strategic Intent 2: Foster cleaner sustainable transportation fuels and systems in order to improve the environment, reduce emission, including GHGs, and to increase economic activity thorough development of domestic and export markets
Strategic Direction 1: Provide S&T to reduce emissions from transportation sources to improve air quality and health and reduce GHG production
1. Support for the development of technological and other measures to control and reduce emissions of particulate matter.
2. The design and use gaseous and liquid hydrocarbon fuels and associated technologies to achieve emissions reductions.
3. The production and use of transportation fuels from renewable energy sources to achieve emissions reductions.
Strategic Direction 2: S&T to improve energy efficiency, reduce emissions and provide economic benefits to Canada from next generation vehicles and systems

1. Increasing the energy efficiency of vehicles using light weight materials and efficient design and components.
2. The development of fuel cell, electric and hybrid vehicle components and their supporting infrastructures.
3. The establishment of GHG-neutral production of hydrogen and its storage and supporting fueling infrastructure.
4. The optimization of the overall efficiency of transportation systems.

Strategic Intent 3: Reduce the overalll energy intensity of Canada's buildings and community systems and, consequently, their associated GHG emissions while, at the same time, providing Canadian companies with potential economic opportunties

Strategic Direction 1: Provide S&T for more affordable, healthy and occupant-friendly buildings which will reduce conventional energy requirements and significantly lower GHG emissions for both domestic and international markets.

1. Improvements in the performance, cost effectiveness and integration of energy efficiency and renewable energy technologies and techniques including implementation tools (application driven) for market application by 2008.
2. Significant reduction in GHG emissions in the longer term using advanced concepts, components and systems.
3. Application of state-of-art energy related building technologies through the Federal Industrial Boiler Program (FIBP).

Strategic Direction 2: Provide S&T to integrate energy services (supply and end use) in communities to reduce overall energy requirements, optimize the use of available resources and reduce environmental impacts including GHG emissions.

1. Establishment of cost-effective interconnections of heat sources and sinks at the community level, which promote the use of energy appropriate to its quality
2. Application of renewable energy technologies and integrated systems in off grid/remote communities.
3. Improvements in the design and integration of energy, transportation, water and waste systems and land use to permit progressive, sustainable development of communities

Strategic Intent 4: Reduce the overall energy intensity of Canada's industrial secotrs and, conseqently, their associated GHG emission while, at the same time, improving proeductivity and providing Canadian companies with potential economic opportunities

Strategic Direction 1: Provide S&T to support the efficient conversion and use of energy through the development of advanced industrial products, processes and systems.

1. Increasing the efficiency of energy use through support of Canadian industry-led projects (identified reactively or through gap analyses) for the development and commercialization of innovative products, processes and systems.

Strategic Direction 2: Reduction of fossil energy intensity and emissions of selected Canadian resource and related industries to maintain their economic and environmental sustainability

1. Reduction of the fossil energy intensity of Canada's agricultural and agri-food industries.
2. Reduction of the fossil energy intensity of Canada's fishing industries.
3. Reduction of the fossil energy intensity of Canada's forest and forest products industries.
4. Reduction of the fossil energy intensity of Canada's mining and metals industries.

5. Increasing the sustainable supply of agricultural and forestry biomass for energy conversion and use.

Strategic Direction 3: Provide S&T to advance generic energy related technologies and processes to reduce energy intensity, particularly in industry, to achieve productivity gains and reduce GHG emissions and other wastes

1. Development of intelligent sensors and controls.
2. Development of tools for industrial process integration and optimization.
3. Development of advanced technologies and products for heat management and separation including high efficiency drying.
4. Development of combustion technologies exclusive to non-power utility applications.
5. Development of low energy intensity bioprocessing technologies.

Strategic Intent 5: Reduce the environmental impacts of Canada's electricity infrastructure, particulary greenhouse gases, thorugh alternative electric power gneeration, increasedd efficiency of fossil-fueled plants and strategies to capture and manage emissions

Strategic Direction 1: Provide S&T to increase the proportion of Canada's electricity supply from renewables and distributed systems which offer improved system integration and reduced environmental impacts (R&D activities in this area will exclusively address generic technological issues whose applications are not related to communities, buildings and industry).

1. Improving the economics and efficiency of conversion of renewable energy to electricity including related storage, hybrid, and systems technologies.
2. Improving the economics and efficiency of conversion of non-renewable energy to electricity in distributed systems including related storage, hybrid, and systems technologies.

Strategic Direction 2: Provide S&T to reduce emissions and the associated environmental impacts from centralized, combustion-based electric power generation systems.

1. Characterization of Canadian fuels and their emissions for more efficient and environmentally benign electricity generation.
2. Conversion of fossil fuels to electricity more efficiently with ultra-low environmental emissions.
3. Capture, treatment, transport, use and storage of CO2 from large point sources.

Strategic Intent 6: Minimize the Negative Impacts of Climate Change on the Canadian Energy Sector

Strategic Direction 1: Provide S&T to support the Canadian energy sector's response to the impacts of climate change.

1. The development of a better understanding of the impacts of climate change on the energy sector, improvements in the forecasting of those impacts and the development of some possible response strategies.

Strategic Direction 2: Provide S&T to enhance the natural uptake of GHGs from the atmosphere.

1. Development of: a better understanding of the relevant natural GHG cycles; and steps to increase the net GHG uptake from the atmosphere by forests, agricultural lands and oceans.

APPENDIX "L"

CCG R&D FUTURE VISION

STRATEGIC DIRECTIONS IN RESEARCH

Contact CCG R&D Office for periodic
updates to the CCG R&D Vision.

COAST GUARD R&D ISSUES / DIRECTIONS

(The CCG Technology Drive)

The CG R&D Program is funded at $3.5 Million annually. CCG research is dedicated to resolving those technology challenges brought-on by the changing nature of worldwide commerce and the introduction of new technologies to all components of the marine community. As well, there is an ongoing imperative for the CCG to improve the efficiency of its own operations both in response to "financial pressures" facing government and demands for the most effective program delivery in the face of marine service fees. Most R&D issues are planned to support either short-term opportunities for efficiency-based improvements or longer term trends in client demand for services (or strategic changes in levels of service).

Specific projects or technology issues tend to be closely linked to specific business lines. However, in order to present a more effective picture to the public, we can also describe the Canadian Coast Guard's strategic directions by relating them to two primary themes. These themes can be described as a comprehensive cross-sectoral framework.

These themes are not all-encompassing but are descriptive. They point to a future which is technologically-based and which will reflect a new orientation to:

1. The Marine Highway - Using Information for Improved Management and Changing the Nature of Marine Services:

The advent of high-speed computer-based analytical tools, advanced digital and satelite-based communication systems, and new remote sensing technologies offer the prospect of a new way to do business. The evolution in CCG services begins, in the near term, with those services offered in support of commercial navigation. The Coast Guard foresees a new worldwide system of information users sharing data (from distributed data bases) with a view to generating new information and knowledge-based decision-making systems. This new approach will permit the replacement of some "hard" infrastructure with a system of information distribution and "automated" services for the major commercial carriers. As costs of these new information systems decline, the technologies and applications will spread, thereby enhancing safety and improving the effectiveness of many "ocean-related" businesses.

This concept is exemplified, at the highest level, by the research activities of the European Union (EU). In 1998, it initiated a three year program for Maritime Information Systems (MARIS) aimed at exploring the evolution of the new navigational systems. In Canada, the Canadian Coast Guard envisages that its systems of floating navigational aids (buoys) and Vessel Traffic Management will undergo radical changes through the integrated use of electronic charts, DGPS positioning, Automatic Vessel Identification (AIS) systems and automated information dissemination systems. The development and advancement of this suite of technologies in support of client needs has been identified, and is supported by, the Canadian marine commercial community. It is probably the highest single propspective area for the Coast Guard to gain new program efficiencies for the upcoming ten years.

With respect to program outcomes, the client will be better served, marine safety will be enhanced and fewer environmental disasters will occur. As the backbone of this information net is established, the CCG will benefit through a reduction in hard services. From the client perspective, the systems will also provide a platform whereby each user will assume more responsibility to self-serve and, in turn, to load additional commercial applications relating to its own operational bottom-line. Hypothetically, and in the longer term, a fully operational electronic navigation routing system would also obviate such agencies as Pilotage.

Spin-off applications abound. Shipboard systems will be upgraded not only to incorporate these basic navigational services but to enhance real-time management of the ship, the overall shipping system, and on-board services to the crew. As per the MARIS vision, both commercial and institutional operators will share in the benefits of real-time management capabilities.

Related emergency services and response systems will also benefit from the enhancement of real-time information management. For example, real-time positioning and AIS polling for position location may take the "search" out of search and rescue. Accident investigation will be enhanced through real-time data capture. Environmental spill and fishing prosecutions will be enhanced through accurate reliable surveillance systems and more accurate positioning data.

To achieve the ultimate objective of 'linked' marine services, it is necessary to pursue a consistent direction, in both international and domestic fora. Our initial set of targets involves the automation and consolidation of shore-based vessel traffic management and communication infrastructure, linked to the electronic chart and satelite-based position-fixing systems. The development and implementation of the technologies essential to this form of full electronic navigation is well underway. IMO conventions now call for AIS systems in designated regional zones by the year 2008.

At the same time as work is progressing towards the needs of commercial operators, care must be taken to assure no negative impacts on other client groups. Not only do we require cooperative research with other partners to develop the "hard" communication systems capable of handling the large volume of data and the "software" end of the equation to assure safe reliable applications, but we also need to consider how to have these applications cascade to subsequent levels of users.

In subsequent time horizons, the nature of the larger (worldwide) commercial navigational base will be clarified. There are apparent limits to the degree to which all operators are prepared to share and there are limits to the pace at which the world community is prepared to progress. Significant efforts will be directed to those systems offering realistic prospects of broadening the base of 'mandatory' users in a 'linked' system, as well as to the development of those international standards required for accession to new international treaties, especially those under IMO.

In very real terms, the Coast Guard will be seen as the agent of change in a new marine highway network. The challenge will be to develop a new route management structure which implicates all existing services but translates them into a new delivery model. The degree to which marine partners can be attracted will enhance Canada's competitive position as a destination and as a land-bridge. The degree to which Canadian electronic and communication industries can be attracted will affect job creation, export sales and new service opportunities.

Some of the current technologies under development include:

Icebreaking/Escort - Enhanced safety for ships navigating in ice and the improved deployment of the CG icebreaker fleet, especially in the Gulf and the St. Lawrence, requires both long term strategic appreciation of ice conditions and near-term information on current and predicted ice conditions. Consideration needs to be given to how mariners acquire, process and make navigational decisions. Longer term challenges for the CCG will involve a continuing reduction in the heavy icebreaker fleet (southern deployment) and possible increases in demands for service in the Arctic, related to new oil and gas activities. In response, the CCG will investigate systems which provide information on how to more effectively deploy icebreakers and information to enhance CCG advisory services, in areas where clients may choose "self-service" over fee-for-service situations. Other groups will be interested in the acquisition of remotely sensed ice data, new processing systems, on-board or self-serve systems, and ice hazard detection systems.

Nav Aids - The development of new advanced navigational and communication systems (often satellite-based) is a major element in the modernization of the traditional system. Information on new ways to enhance navigational accuracy or to apply information systems is of most critical interest. However, it does not replace the need for conventional aids in many areas. In these cases, and in the near term, improved life cycle maintenance and new power sources for floating and fixed aids must be investigated.

Waterways - The questions of water depth, erosion and sedimentation remain priority concerns in several of Canada's strategic waterways. The St. Lawrence River is a key element in Canada's international trade and is the focus of a special program integrating a wide variety of waterway information from an equally wide variety of data sources... water depth, wind/wave, weather, ice, etc. A special research theme called the St. Lawrence River Routing Project includes the CCG, DFO (Science) and EC.

SAR - The most direct method of eliminating the search from SAR is to home on the body or vessel electronically. The CG is working with industry to specify operational paramaters for such equipment and to assure its reliability. On the policy level, CCG is also working with client groups to assure the acceptance of devices for automatically monitoring vessel position and/or homing-in on persons-in-water. At present it seems that cost factors might inhibit "universal" carriage of locator beacons but new technologies and new systems being introduced by Canada's partners suggest that in a ten year horizon, universal carriage will be a reality.

Spills - Spill tracking is another important aspect to maritime environmental protection and the promotion of sustainable transportation. New (airborne) remote sensing technologies which permit the detection and characterization of spills, as well as "fingerprinting" the source of mystery spills, or "black objects" will assist in the prosecution of deliberate discharges and will improve the overall character of maritime trade. Once identified, response strategies and new styles of equipment are also required for a wide range of environmental and geographic conditions.

Vessel Modernization - As more information becomes available to the navigator, it is important that the information be presented logically and in compatible manner/languages. The "human"pects of these developments were noted in the John Pace study on AIS/ECDIS. As well, the interactive nature of a number of displays on the bridge of a ship is potentially more important in commercial navigation where the number of staff is limited.

2. Sustainable Transportation: Minimizing the Marine Footprint on the World's Oceans and Coastal Zones

A major concern of the department is the efficient delivery of programs and services ....themes such as holding the line of program growth, finding alternate ways to deliver services, and defining core services all reflect this theme.

But the emphasis on efficiency and development of new-style partnerships for the co-delivery of services does not take place in a vacuum. There are related public policy objectives to be served. In all cases, the most pressing demand of a modern society to assure its own future viability. In the case of transportation, the United Nations Environmental Committee, at its meeting in Rio de Janiero, has translated this demand to an accord for all nations to seek "sustainable" transportation systems.

The CG also faces related demands to assure the overall safety of the system, and ability to respond effectively to emergency scenarios, to support an improved understanding of the oceans, and to comprehend the impact of marine activities on coastal zones, the fish stock and all other living resources. For the Coast Guard, this wide range of challenges suggests that CCG technologies must be developed to assure the future of marine transportation in a context of sustainability.
In hard technology terms, some of the more significant directions are those associated with the safety of life at sea, emergency response capabilities, the exercise of due diligence in the operation of our own fleet and infrastructure, the policing of others, and support to other policing and science communities.So, within the context of efficiency and constant improvement, some of the major technological challenges to be addressed by the CCG are:

SAR - The best response action is the one which avoids an incident in the first instance. Efforts to improve compliance with regulations (information/enforcement) can be supplemented by new training and certification technologies. In a more responsive mode, the Coast Guard is also developing technologies to permit the search function to "home-in" on the search object. Work to date has included EPIRBs, GPIRBs, and data marker buoys. Work continues on the international harmonization of "locator" technologies. The CCG and DFO (Science) have also developed and applied various mathematical models, both for spill tracking and search pattern planning. These systems offer the prospect of shorter search and rescue efforts and improved coastal management capability. Finally the use of improved data bases for risk management modelling will assist the CCG in the effective deployment of limited SAR resources. Results from many of these themes are now considered near-operational. As these models are costly and require extensive modeling of local parameters, future work in this area will take place only on an "opportunity" basis.

Spill Response - The clean-up of oil (major spills and mystery spills) is a responsibility shared with industry. In the Arctic and all areas outside declared response zones, spill response remains the primary responsibility of the CG. In other major risk zones, the new "Response Organizations (RO's)" are the primary agent.

Anticipated developments in the Arctic over the next ten years will impact both the CCG and DFO. Operationally, There is an expectation of an increased need for Coast Guard icebreakers and a detailed spill contingency plan if oil and gas exploration and exploitation are increased. In research terms, a number of issues previously investigated under the Arctic marine Transportation R&D Plan will need to be revisited. DFO's primary concerns are the implications of potential offshore developement and pipeline construction in the Beaufort Sea pertaining to jurisdictions and policies under the Oceans Act (Oceans Directorate), the Fisheries Act (Habitat Management) and the Navigable Waters Protection Act (Coast Guard).

Other new issues emerging include the difficulty of dealing with orimulsions and the ongoing question of how to deal with spills in ice.

Navigation Systems - R&D into alternative technologies in support of the CCG's navigational aid infrastructure, such as power supplies, buoy paints/coatings, plastic buoys and elastic mooring systems, are crucial not only to aids modernization but more immediately to the reduction in demand on ship time. Anticipated operational savings would contribute to a lower overall cost of doing business and to a reduced fleet.

Operations - New engines, propulsion systems or components, traditional and alternate fuels offer greater efficiency, reduced emissions, and reduced maintenance. Information on developments in these fields is perennially interesting.

Environment - The adherence to sound environmental management practices and exercising due diligence with respect to the operation of CG infrastructure is a recognized goal for all federal departments. It is important to develop new technologies which will permit the CCG to exceed international treaties on ship-sourced pollution (IMO) and to fulfill Canada's commitments to action on climate change (emissions of the six critical greenhouse gases). Green ships and green operations will help the CCG to meet evolving environmental standards. The clean-up of potentially contaminated CCG sites is also an issue requiring the development of new technologies, specific to selected sites.

3. Other Stand-Alone Issues:

There are several other stand-alone issues which are notable as technological challenges.

New Vessels - New style vessels are an infrequent but important source of improved efficiency. The long life cycle of CCG vessels mandates a relatively slow introduction of new hull forms. Still, periodically opportunities do present themselves. At this time, the driving force behind the fleet evolution is " smaller/lighter ships, and fewer ship types". Some of the more obvious evolutions in ship hull forms includes increased application for catamaran and trimaran styles. In the broader marine community (at the high end), there is a trend to fast ships and (ultra-long term) wing-in-ground-effect fast craft. These vessels will have specific impacts on marine services only in the most densely trafficced port areas.

Human Factors on Vessels - A number of areas of research relating to human factors remain active. The assessment of potential effects of vessel operation on human health and the development of specific physical standards in the operation of certain equipment must be founded in good science. The development of Bona Fide Operational Requirments (BFORs) is an ongoing concern shared amongst all major industrial sectors, federal regulatory agencies and health advocates.

Geomatics - The development of new information systems and the resolution of technical difficulties related to the integration of distributed data bases is an issue of federal significance. Initiatives to introduce new governance and to create a seamless service environment for the public require specific solutions to hardware and software problems. Distributed data bases and, in the marine context, geo-referenced data bases is an important aspect of the new "government-on-line" initiative. Several internet-based marine "portals" are currently under development to increase access to marine geo-referenced information.

APPENDIX "M"

CCG BUSINESS LINES AND SERVICE LINES

CCG Business Lines & Service Lines

CCG Business Lines

A00	Navigation Systems
B00	Icebreaking
C00	Marine Communications & Traffic Services
E00	Safety & Environmental Response Systems
F00	Fleet
H00 & H10	Ship/Helicopter Operations

CCG Service Lines

A10	Marine Aids to Navigation
A40	Waterways Development
A50	Navigable Waters Protection
A60	Shared Costs – Marine Navigation Services
B10	Route Assistance
B20	Facilities and Port Maintenance
B30	Ice Routing & Information Services
B40	Flood Control
B50	Eastern Arctic Sealift
B60	Shared Costs – Icebreaking Operations
C10	Distress/Safety Communications
C20	Vessel Screening
C30	Regulating Vessel Traffic Movements
C40	Integrated Marine Information Systems
C50	Public Correspondence Services
C60	Shared Costs – Marine Communications & Traffic Services
E10	Search and Rescue
E20	Boating Safety
E30	Environmental Response
E40	Emergency Preparedness
E50	Shared Costs – Safety & Environmental Response Systems
F10	Technical & Operational Services Fleet
F20	Helicopter Support
G60	Regional Operations and Coordination
G70	HQ Controlled Funds (O&M and Capital)
G90	Direction and Administration
H00	Ships Operations
H10	Ship and Helicopter Services
H11	Ship/Helicopter Services

APPENDIX "N"

GLOSSARY OF ABBREVIATIONS

Glossary of Abbreviations

ACOA	Atlantic Canada Opportunity Agency
AESA	Atmospheric Environment Services
AI	Artificial Intelligence
ASPPR	Arctic Shipping Pollution Prevention Regulations
CCG	Canadian Coast Guard
CCGR	Canadian Coast Guard Region
CCMC	Canadian Centre for Maritime Communications
CEAA	Canadian Environmental Assessment Act
CEPA	Canadian Environmental Protection Act
CGSB	Canadian General Standards Board
CMAC	Canadian Marine Advisory Council
DFO	Department of Fisheries and Oceans
GLAP	Great Lakes Action Plan
GLPS	Great Lakes Port Studies Project
GP	Green Plan
IMD	Institute of Marine Dynamics
IOS	Institute of Ocean Science
IP	Intellectual Property
JRPA	Joint Research Project Agreement
LOAP	Lube Oil Analysis Program
M.I.T.	Massachusetts Institute of Technology
MARPOL	Marine Pollution
MarAd	US Maritime Administration
MOU	Memorandum of Understanding
NATO	North Atlantic Treaty Organization
NIF	SAR New Initiatives Fund
NRCan	Natural Resources Canada
NRC	National Research Council
O&M	Operations and Maintenance
PERD	Program on Energy Research and Development
PJ	Project Justification
PWGSC	Public Works and Government Services Canada
R&D	Research and Development
TC	Transport Canada
TDC	Transporation Development Centre
TEC	Total Estimated Cost
USCG	United States Coast Guard
VTS	Vessel Traffic Services

APPENDIX "O"

INVENTION DISCLOSURE FORM

INVENTION DISCLOSURE FORM

Report of **an invention** pursuant to section 4 of *the Public Servants Inventions Act* and section 2 of the Public Servants Inventions Regulations. This form may also be used to report **innovations** other than inventions.

PART 1: INFORMATION TO BE FURNISHED BY PUBLIC SERVANT INVENTORS / INNOVATORS

(if there are more than three inventors / Innovators, additional report forms should be completed as required)

	Inventor / Innovator #1	**Inventor / Innovator#2**	**Inventor / Innovator #3**
Name			
Residence Address			
Business Address			
Tel #			
Nationality			
e-mail address			
S.I.N.[1]			
	Name of the department or agency in which each inventor / innovator is employed		
	Position(s) and type of work of each inventor / innovator		

Proposed name or title for the invention (innovation):

Brief description, of the invention / innovation under the following headings (include drawings where necessary)

(a)	What is the problem? (state the problem that the invention deals with)
(b)	How may the problem be dealt with according to present knowledge?

---

[1] Needed for payment of awards to inventors, where appropriate

(c)	What are the limitations or drawbacks of present apparatus, product, or process?
(d)	How do you propose to deal with the problem? (describe the invention / innovation)
(e)	Which part of the proposed solution you think is novel?

Indicate if the invention / innovation or any part of it has been disclosed:

	Yes		No
in any publication?			
at any conference?			
to anyone?			

If the answer is YES to any of the above, please provide all relevant details (names, dates, places, how - written, oral -, and the exact information which was disclosed):

If any part of the invention will be disclosed in the future, indicate the earliest disclosure DATE:

Can you provide references in published literature or patents relating to the problem or subject (related to the invention / innovation):

Indicate if in your opinion the invention belongs to the Crown:	Yes		No	

If the answer is NO, please explain why:

Signature of inventors and Innovators	Inventor #1		Inventor #2		inventor #3
Date					
Place					

PART 2: INFORMATION TO BE PROVIDED BY SUPERVISOR OR OTHER APPROPRIATE DEPARTMENTAL OFFICER

1. DID THE INVENTION ARISE FROM A GENERAL PROGRAM OF RESEARCH OR FROM WORK RELATED TO A PARTICULAR PIECE OF EQUIPMENT, PROCESS OR PROBLEM? IF YES PLEASE GIVE DETAILS.

2. DOES A DEVELOPMENT CONTRACT EXIST IN RELATION TO THE INVENTION OR IS ONE PROJECTED?

Indicate whether or not the invention or not any part of the invention	Yes		No
was developed under contract			
is being developed under contract:			
will be developed under contract:			

If the answer is YES to any of the above, please provide all relevant details, including name, address, and telephone number of the contractor(s), and name of contractor(s) contact person.

3. HAVE OTHER PERSONS OR ORGANIZATIONS ASSISTED IN THE DEVELOPMENT? Yes ☐ No ☐

If the answer is yes describe source and nature of assistance

4. HAS THE APPARATUS, PRODUCT OR PROCESS BEEN MADE AND TESTED? Yes ☐ No ☐

If the answer is yes please provide related details.

5. IN YOUR OPINION WHAT ARE THE POSSIBLE COMMERCIAL APPLICATIONS OF THE INVENTION?

6. WHAT ARE THE ACTUAL OR POTENTIAL USES OF THE INVENTION BY THE ARMED FORCES OR OTHER GOVERNMENT AGENCIES, IF ANY?

7. COMMENTS, IF ANY, ON INVENTOR'S ANSWERS:

8. PROVIDE OTHER COMMENTS, IF ANY:

*If the inventors named in **PART 1** have not contributed equally to the invention, indicate the relative contribution that each has made to the invention, and name any persons, other than the inventor(s), who may also have contributed to the development of the invention. **This information is used to determine the share that each inventor and other contributor may get from any awards payable to inventors and innovators pursuant to the Public Servants Invention Act.***

9. SIGNATURE OF SUPERVISOR, OR APPROPRIATE OFFICER:

Signature:		Date:		Place:	
Name:					
Position:					

APPENDIX "P"

PROJECT SCREENING CRITERIA

INITIAL SCREENING CRITERIA

CCG SCREENING CRITERIA:

- IS IT R&D?
  (Definition - Investigative work to identify a solution to a technological problem related to CCG operational roles, and/or to develop knowledge essential to CCG regulatory responsibilities, and/or knowledge for the improved management of to CCG activities) NOTE: It is the responsibility of the project proponent to assure that the work being proposed is not a duplication of prior work

- IS THE PROJECT DOCUMENTATION CORRECTLY COMPLETED?
  (Failure to supply correctly completed forms containing adequate information to assure full and comprehensive assessment will result in the rejection of the proposal. Proposals will be returned to the originator) Eg: Are the Project Authority and Scientific Authority clearly identified (NOTE: Technical projects require a Scientific Authority located in ITS) ?

- DOES THE PROJECT ADDRESS A CLEAR NEED? IS IT A PUBLIC ISSUE (ANY LEVEL OF GOV'T) OR PRIVATE?
  Is the product something which has an obvious public policy imperative and which will provide benefits to direct users or the population at large in a meaningful and significant manner, in the near to medium term? NOTE: It is the responsibility of the project proponent to assure that there is client endorsement for the proposed work.

- IS THERE A COMPELLING NEED FOR THE FEDERAL GOV'T TO BE INVOLVED
  How does this work fit with federal/provincial jurisdictions? How does it fit in the timeline of other initiatives? Is it optional to proceed? Are there dire consequences of not proceeding?

- IS IT A DFO/CCG MISSION ISSUE (CONSISTENT WITH STRATEGIC DIRECTIONS AND LINKED CLOSELY TO CAPITAL ACQUISTIONS OR PROGRAMS AUTHORIZED UNDER THE CCG BUSINESS PLAN)?
  - Does it directly support a mandated role?
  - Is it consistent with approved changes in program directions/levels of service?
  - Does it reduce the environmental footprint?
  - Is the client identified?
  - Do they endorse?
  - Is there an implementation plan?
  - Has it been done before?

- DOES THE PROJECT CONTRIBUTE TO OTHER FEDERAL OBJECTIVES:
  - Productivity and economic growth
  - Job creation or maintenance
  - Sustainable development
  - Strengthen the scientific base
  - Develop health or safety standards

- IS THERE A SIGNIFICANT RISK OF FAILURE?
  - Background scientific knowledge is tenuous?
  - Applications are complex?
  - Intended objectives are too far-reaching?

APPENDIX "Q"

PROJECT SELECTION CRITERIA

R&D PROJECT EVALUATION FORM

2001-02 (NEW) R&D PROJECT PROPOSALS

OVERVIEW OF EVALUATION MODEL:

The evaluation form consists of 3 elements:

1. objectives and sub-objectives;
2. weights; and
3. rating scales.

The **objectives and sub-objectives** are based on organizational (mandate) and management objectives. In total, the R&D Committee Members accepted 6 objectives and 13 sub-objectives as core elements essential to the effective ranking of new R&D projects. To assure a consistency in the interpretation of the objectives and sub-objectives from one evaluator to the next as well as from an evaluation year to the next, explanatory notes and/or definitions are provided. For each of these 19 objectives and sub-objectives, the R&D Committee Members assigned **weights** through consensus forming to reflect the objectives and sub-objectives relative importance to the goal. See Table 1 for evaluation model.

Each project is evaluated using a 1 to 9 point **rating scale** (1 being minimum and 9 being maximum) assigned to each lowest level objective, with the exception of the F. Benefit objective, which consists of 4 qualitative values. If an R&D project scores a 9, it will receive 100% of the lowest level objective's total weight. On the other hand, if another project scores a 2, it will receive only approximately 20% of the lowest level objective's total weight.

INSTRUCTIONS ON HOW TO COMPLETE THE EVALUATION FORM:

STEP 1: Evaluators rate the projects against the rating scale for each of the lowest level objectives. If the project does not contribute to a sub-objective, the evaluator is asked to choose **N/A**.

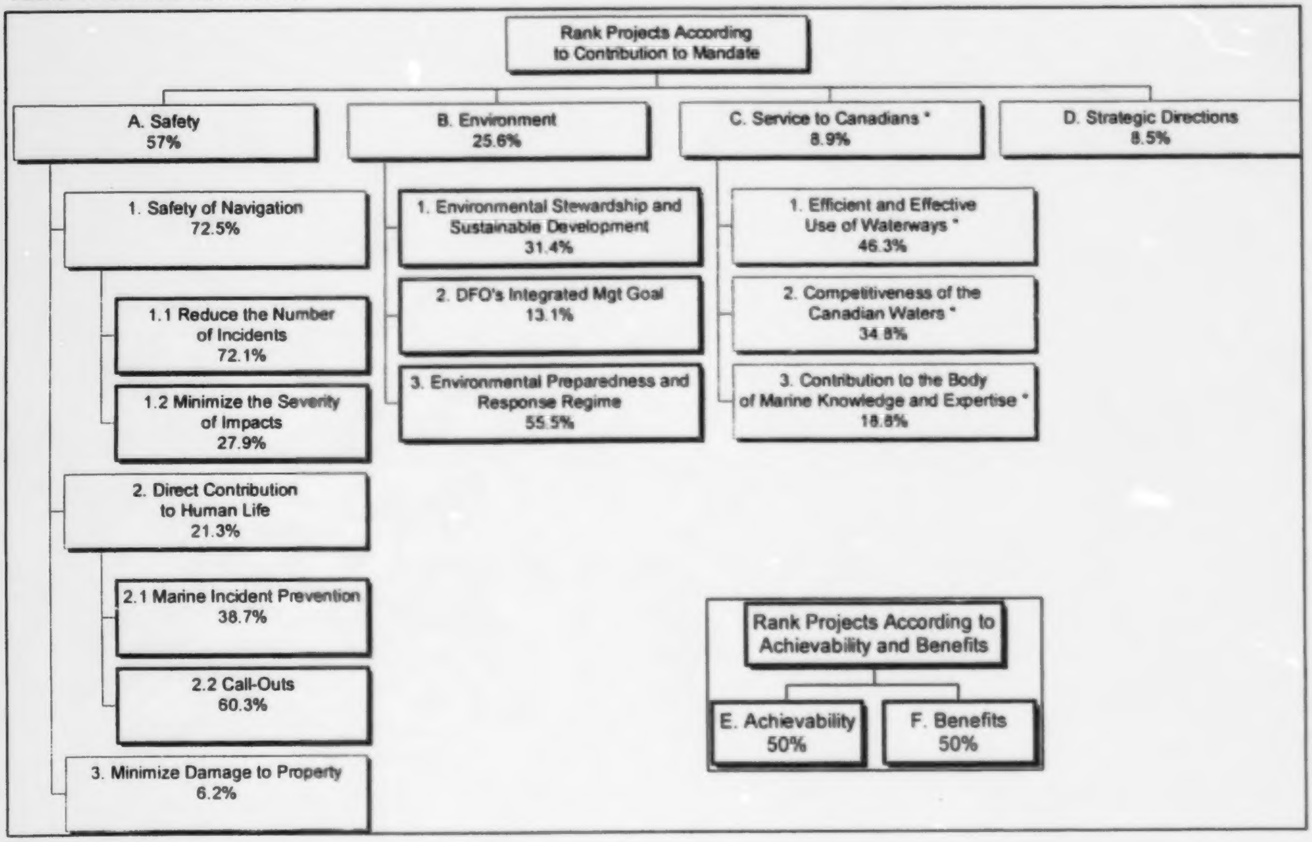
STEP 2: In order to assist in developing more meaningful measures, evaluators are asked to comment on how they arrived at their decisions. These comments will, in turn, help define benchmarks for each of the rating values for subsequent project evaluations.

DISTRIBUTION OF PROJECT PROPOSALS:

Due to the volume of project proposals, evaluators will only be asked to score a certain number of proposals. Regional evaluators will not evaluate projects from their own region. Headquarters evaluators will not evaluate projects from their own program.

R&D PROJECT EVALUATION FORM

Table 1: Evaluation Model


Rank Projects According to Contribution to Mandate
A. Safety 57%
B. Environment 25.6%
C. Service to Canadians * 8.9%
D. Strategic Directions 8.5%
1. Safety of Navigation 72.5%
1.1 Reduce the Number of Incidents 72.1%
1.2 Minimize the Severity of Impacts 27.9%
2. Direct Contribution to Human Life 21.3%
2.1 Marine Incident Prevention 38.7%
2.2 Call-Outs 60.3%
3. Minimize Damage to Property 6.2%
1. Environmental Stewardship and Sustainable Development 31.4%
2. DFO's Integrated Mgt Goal 13.1%
3. Environmental Preparedness and Response Regime 55.5%
1. Efficient and Effective Use of Waterways * 46.3%
2. Competitiveness of the Canadian Waters * 34.8%
3. Contribution to the Body of Marine Knowledge and Expertise * 18.8%
Rank Projects According to Achievability and Benefits
E. Achievability 50%
F. Benefits 50%

* The weights 46.3%+34.8%+18.8% equals **100%** of the covering objective Service to Canadians.

R&D PROJECT EVALUATION FORM

R&D PROJECT NAME:

DATE OF EVALUATION:

NAME OF EVALUATOR:

Objectives/ Sub-objectives	Project Rating
A. SAFETY 1. **SAFETY OF NAVIGATION** measures the contribution of an R&D project to: 1.1 **Reduce the Number of Incidents** - management of vessel traffic e.g. improve ship-to-ship communication	N/A 1 2 3 4 5 6 7 8 9 MIN MED MAX
Comments:	
1.2 **Minimize the Severity of Impacts** in terms of repair costs to own ship, other ship(s) and/or physical asset(s).	N/A 1 2 3 4 5 6 7 8 9 MIN MED MAX
Comments:	
2. **DIRECT CONTRIBUTION TO HUMAN LIFE** measures the contribution of an R&D project for/to: 2.1 **Marine Incident Prevention** through, but not exclusive to, training and educational programs on boating safety for the public, for commercial users and/or for CCG.	N/A 1 2 3 4 5 6 7 8 9 MIN MED MAX
Comments:	

R&D PROJECT EVALUATION FORM

Objectives/ Sub-objectives	Project Rating
2.2 **Call-Outs** with respects to the 4 response elements: ALERT, ACTIVATE, RESPONSE and RECOVER (can be some degree of 1 element or a combination of 2 or more elements).	**N/A** 1 2 3 4 5 6 7 8 9 MIN MED MAX
Comments:	
3. **MINIMIZE DAMAGE TO PROPERTY** such as agricultural land, personal homes, businesses, public land and/or infrastructure due to variations in water levels.	**N/A** 1 2 3 4 5 6 7 8 9 MIN MED MAX
Comments:	

R&D PROJECT EVALUATION FORM

Objectives/ Sub-objectives	**Project Rating**
B. ENVIRONMENT This objective measures how an R&D project contributes to (or improves): 1. **Environmental Stewardship** - own operations and due diligence, common good and/or, leadership; **and** **Sustainable Development** - full life cycle management	**N/A** 1 2 3 4 5 6 7 8 9 MIN MED MAX
Comments:	
2. **DFO's Integrated Management Goal** - plans for the integrated management of activities affecting estuaries, coastal and marine waters e.g. marine protected areas, ocean dumping, aquaculture, drift modeling.	**N/A** 1 2 3 4 5 6 7 8 9 MIN MED MAX
Comments:	
3. **Environmental Preparedness and Response Regime** e.g. training/professional development, equipment development/enhancement, and field-testing.	**N/A** 1 2 3 4 5 6 7 8 9 MIN MED MAX
Comments:	

R&D PROJECT EVALUATION FORM

Objectives/ Sub-objectives	Project Rating
C. SERVICE TO CANADIANS This objective measures how an R&D project contributes to the: 1. **Efficient and Effective Use of the Waterways** - increase accessibility (commercial and recreational users) - support shared use of waterways and coastal areas - minimize rules and restrictions	**N/A** 1 2 3 4 5 6 7 8 9 MIN MED MAX
Comments:	
2. **Competitiveness of the Canadian Waters** Commercial: profitability, *minimization of issues that restrict trade* Recreational: *boating manufactures would like to see a healthy market*	**N/A** 1 2 3 4 5 6 7 8 9 MIN MED MAX
Comments:	
3. **Contribution to the Body of Marine Knowledge and Expertise** Support to marine science for CCG and/or others e.g. hydrographic sounding equipment on ships	**N/A** 1 2 3 4 5 6 7 8 9 MIN MED MAX
Comments:	

R&D PROJECT EVALUATION FORM

Objectives/ Sub-objectives	**Project Rating**
D. SUPORT TO STRATEGIC DIRECTIONS This objective measures the R&D project's **Support to Strategic Directions** (can be some degree of 1 strategic direction or a combination of 2 or more strategic directions): 1. Leverage technology and expertise 2. Focus on core mandate and assets 3. Exercise more of a leadership role 4. Enhanced strategic and risk management 5. Pursue policy and legislative renewal 6. Workforce rejuvenation 7. Explore new ways of doing business	**N/A** 1 2 3 4 5 6 7 8 9 MIN MED MAX
Comments:	

R&D PROJECT EVALUATION FORM

Objectives/ Sub-objectives | **Project Rating**

E. ACHIEVABILITY

This objective measures the level of project planning.

N/A	1	2	3	4	5	6	7	8	9
	MIN				MED				MAX

If the R&D project proposal **addresses ALL 6 project elements/ plans,** the minimum score is 4. To obtain a score higher than 4, each project element/plan must be well documented.

If the R&D project proposal **addresses UP TO 5 project elements/ plans**, the project can only score between **1 and 3**.

Project Plan elements/plans:
1. Project definition (scope, objectives/goal, assumptions)
2. Budget information: includes material and human resources estimates
3. Schedule
4. Implementation plan (how the project will be executed or conducted, and describes the major components and assemblies to be installed)
5. Risk management plan
6. Quality assurance plan

Comments:

F. BENEFITS

For each benefit selected, the R&D project receives 2 points (maximum of 8 points).

☐ **N/A**

☐ **Direct Program Benefits:** mechanisms to move from R&D results to "viable commercial product" exist; capital acquisition plan (or business plan) calls for introduction of the specific innovation

☐ **Benefits to Other Federal Programs/Objectives:** related service roles (RCMP, Customs etc.)

☐ **Benefits to External Clients (Operators):** improves commercial viability/operations.

☐ **Benefits to Third Parties (e.g.: product manufacturers):** value of sales (domestic/international)

Comments:

APPENDIX "R"

REQUEST FOR PROPOSAL AND MERX™

SESSION 2
REQUEST FOR PROPOSAL AND MERX

1. INTRODUCTION

The cornerstone of Government procurement of **Goods** or **Services** is Competition. This principle equally applies to all low dollar value procurement as it does to the most complex procurement activities. There are three tools to request information from suppliers to determine pricing, value and contract award: Request for proposals; Request for quotations and Invitation to Tender. We will be concentrating on the Request for Proposals (RFP). The Government encourages the posting of all opportunities in excess of $25,000 on its electronic tendering system, MERX, including ***Advanced Contract Award Notifications (ACAN).***

The topics covered during this session will include:

-Key Principles in Contracting;
-Trade Agreements and their thresholds;
-Procurement Strategy for Aboriginal Businesses (PSAB)
-Comprehensive land claims agreements;
-CITT and its most common complaints;
-MERX; NPP and ACAN;
-The Content of an RFP; and
-Bidders Conference.

Contracts are basically formal agreements whereby a supplier agrees to supply goods/services for some sort of consideration. There has to be an offer and acceptance, must be between two or more competent parties, legality of the subject matter, and there must be consideration.

It is very important to understand the basic procedures in contracting in the Federal government and the degree of complexity which can be involved. The various steps and time required for each must be evaluated accurately because this can have an impact on resource planning and allocation. There are many policies and directives governing purchasing. A good understanding of the basic steps involved in governmental contracting will help to improve relations between customer departments and central service organizations.

It is government policy to seek competition whenever practical. For low-dollar-value purchases, it is not necessary to receive written submissions: Catalogue comparisons, advertisements and telephone calls can be used. Departmental materiel managers should put in place an acquisition process that encourage competition, reduces costs and improves productivity, while taking due consideration of risk and delegated authorities.

2. GOVERNMENT CONTRACTING

A number of key Government principles are identified in the Contracting policy, Government Regulations and in the various policies, however, these are mentioned here as a reminder, since most contracting officers work with these every day in meetings with their clients and in meeting their clients` requirements.

2.1 KEY PRINCIPLES

- best value : Optimal combination of quality, time and total life-cycle costs.
- competition : provide an equal opportunity to compete for any government requirements.
- fairness : showing no favouritism to any contractor and opportunity to compete.
- operational requirements : pre-eminence of operational requirements in procurement.
- socio-economic considerations : consideration and support to long-term government objectives.
- prudence and probity: to use sound judgement and to act with integrity and honesty.

3. TRADE AGREEMENTS

The Trade Agreements are laws passed between various parties to expand the opportunities of trade between commercial bodies to promote economic growth and development. The Federal Government Procurement Program is subject to the Agreement on Internal Trade, the North American Free Trade Agreement, the previous Free Trade Agreement and the World Trade Organization - Agreement on Government Procurement. In each agreement, it was determined that each participating body had to establish a redress mechanism which would address complaints. Originally a Procurement Review Board was established for the Free Trade Agreement and NAFTA, however, when the GATT was renegotiated to the WTO-AGP and the AIT came into effect, the Canadian International Trade Tribunal was established to address all Trade Agreements disputes as a quasi-judicial body, however complainants still have access to the judiciary system if they are not satisfied with the CITT determinations.

3.1 WORLD TRADE ORGANIZATION - AGREEMENT ON GOVERNMENT PROCUREMENT (WTO-AGP)

The WTO-AGP came into effect on January 1, 1996 and supersedes the General Agreement on Tariffs and Trade (GATT). Government procurement of goods and certain services (as adjusted for exchange rate by TB, January 1998) valued at more than C$255.1K, and of construction services valued at more than C.$9.7M, including GST, is subject to the provisions of the agreement. Requirements must be advertised either in the Government Business Opportunities publication or on the Government Electronic Tendering Service for at least 40 calendar days.

3.2 NORTH AMERICAN FREE TRADE AGREEMENT (NAFTA)

The North American Free Trade Agreement (NAFTA) came into effect on January 1, 1994. The NAFTA opens up the North American government procurement market to competition among Canada, the United States, and Mexico.

As of January 1, 1998, the new exchange rates were applied to the US$ limits under NAFTA. Therefore, the government procurement of goods and services valued at more than C$72.6K* and construction services valued at more than C$9.4M is to be opened to competition among the three countries. These thresholds include GST and are valid until December 1999. Requirements must be advertised either in the Government Business Opportunities publication or on the Government Electronic Tendering Service for at least 40 calendar days.

*Between Canada and the United States, the threshold for goods is C$34.1K., under the last remaining condition of the original Free Trade Agreement.

3.3 AGREEMENT ON INTERNAL TRADE

The Agreement on Internal Trade (AIT) came into effect on July 1, 1995. Under the AIT, government procurement of some goods, (valued at more than $25,000), services and construction services (valued at more than $100,000) must be opened to competition among the provinces, territories and regions in Canada. Requirements must be advertised on the Government Electronic Tendering Service. The suggested minimum advertising period is 15 calendar days.

TRADE AGREEMENTS

(Canadian dollars)

AGREEMENTS	DATES	GOODS	SERVICES	CONST.
World Trade Organization - **(WTO-AGP)**	1-1-96 to 12-99	$255.1K	$255.1K	$9.7M
North American Free Trade Agreement **(NAFTA)**	1-1-94 to 12-99	$72.6K	$72.6K	$9.4M
Free Trade Agreement - **FTA** (prior to NAFTA- still in effect)	12-99	$34.1K		
Agreement on Internal Trade **(AIT)**	1-7-95	$25K	$100K	$100K
Procurement Strategy for Aboriginal Business **(PSAB)**	1-4-96	)$5K	)$5K	

TERMINOLOGY

English	**French**
World Trade Organization - Agreement on Government Procurement (WTO-AGP)	Organisation mondiale du commerce - Accord sur les marchés publics (OMC-AMP)
North American Free Trade Agreement (NAFTA)	Accord de libre-échange nord-américain (ALÉNA)
Free Trade Agreement (FTA)	Accord de libre échange (ALE)
Agreement on Internal Trade (AIT)	Accord canadien sur le commerce intérieur (ACCI)
Procurement Strategy for Aboriginal Business (PSAB)	Stratégie d'approvisionnement auprès des entreprises autochtones (SAEA)

4. PROCUREMENT STRATEGY FOR ABORIGINAL BUSINESS (PSAB)

The Procurement Strategy for Aboriginal Business came into effect on April 1, 1996. All procurement valued at more than $5,000, destined primarily for Aboriginal populations, is to be restricted to ***Qualified Aboriginal Businesses***, where operational requirements, best value, prudence and probity, and sound contracting management can be assured. Procurement valued at less than $5,000, as well as any other procurement not specifically covered by this initiative may also be set aside for qualified Aboriginal Businesses if it is practical and cost-effective to do so. There are in excess of 18,000 registered Aboriginal Businesses on the Federal Governments qualified list, which is accessible on the Internet at the PWGSC site or within the department through the Procurement Services Branch.

"The performance objectives phase of this initiative (to award 3% of the department's annual procurement to Aboriginal businesses) took effect on January 1, 1997".

5. COMPREHENSIVE LAND CLAIMS AGREEMENTS

The Comprehensive Land Claims Agreements contain specific government contracting obligations that apply when contracting for the provision of goods, **services** or construction in the geographic areas subject to these agreements. These obligations take precedence over national and/or international agreements.

6. CANADIAN INTERNATIONAL TRADE TRIBUNAL (CITT)

A potential supplier, who has a problem with a procurement, is encouraged to first contact the appropriate government institution. The fact that an objection is made to a government institution, and is thereafter dismissed or otherwise denied, does not prevent a potential supplier from making the same objection to the Tribunal, provided the requirements for filing and the time frames within which to file are observed.

Suppliers and Contracting Officers want to ensure that the process is flawless, in order to ensure fairness and transparency, at all times.

The Tribunal's mandate authorizes it to receive complaints pertaining to any aspect of the procurement process, conduct inquiries and make determinations. The Tribunal's jurisdiction covers complaints under NAFTA, the AIT and the WTO-AGP. Complaints involving procurements falling outside NAFTA, the AIT or the WTO-AGP should be addressed to the responsible government institution or the appropriate court.

In dealing with a complaint, the Tribunal must determine whether the government institution responsible for the procurement under review has complied with the requirements of NAFTA, the AIT and/or the WTO-AGP and such other procedural requirements, as prescribed in the Regulations.

6.1 Expanding Role

Since the early 1990's, the role of the CITT has been expanding to include NAFTA in 1994, as well as the World Trade Organization on January 1, 1995, when consequential amendments to Canadian legislation and regulations came into effect. The Agreement on Internal Trade (AIT) between the provinces and territories and the federal government requires open bidding across Canada for government procurement of goods and **services.**

Contract for goods and services, over a specified monetary threshold are covered by AIT, NAFTA or the WTO-AGP. Effective July 1, 1995, the Tribunal was given authority to review bid challenges under the AIT for federal government procurements. The WTO-AGP also requires that each country establish a bid challenge mechanism for covered procurements. The tribunal was given responsibility for this bid challenge mechanism for Canada, effective January 1, 1996.

6.2 MOST COMMON COMPLAINTS

Most of the complaints against the Federal Government purchasing are concentrated in three areas:

- Insufficient Sole Source Justification
- Excessive Mandatory Requirements
- Awards of Contract to Non-Compliant Bidders
- Other complaints.

6.2.1 Insufficient Sole Source Justification

Complaints can be lodged against potential contract award based on a sole source justification, if other suppliers believe that they can also provide the service or the goods required. Usually, if the goods or services are above the threshold for one of the Trade Agreements, it will be displayed on the Government Electronic Tendering System (GETS), posted as an Advance Contract Award Notice (ACAN). This provides the opportunity to other suppliers to identify themselves to the contracting authority and request that they be considered for the contract. However, in some cases, the clients want to award the contract to one particular supplier without full justification, leaving themselves open to criticism or complaints from other suppliers or the public.

Contracting Officers are expected to deter managers from using the Sole Source option, it should only be used in cases of essential requirements which can be easily justified.

6.2.2 Excessive Mandatory Requirements

Occasionally client managers will request unfairly restrictive mandatory criteria for the main purpose of eliminating the competition and therefore be able to award the contract to a specific company, while still appearing to be conducting a competitive process. Unfairly restricting competition also impacts on the potential cost savings or initiative that suppliers will demonstrate if they are given the opportunity.

6.2.3. Award of Contract to Non-Compliant Bidders

It is essential to be consistent when making decisions and to apply the evaluation criteria developed prior to the closing date of the RFP/ITT, to all the bidders proposals/tenders. It is also essential to realize that because a company may not meet the mandatory criteria and that is the company which the client wanted, the contracting officer cannot change the criteria for only one supplier, after all proposals are received and other companies have submitted bids or might have, had some of the criteria been different.

Once an RFP has closed, if all bids are noncompliant, the Contracting Officer must reexamine the requirements with the client and determine why no companies submitted compliant bids and whether a modified RFP would bring responsive bids.

6.2.4 Other Complaints

Other complaints such as the Contracting Authority deciding NOT to award a contract once the RFP was closed and the bids evaluated without just cause or unclear or missing technical information to allow suppliers to submit proposals on the same basis. Any other issues related to the Contract Management Process, prior to contract award, are subject to the Trade Agreements requirements therefore are subject to CITT rulings.

There are some matters, however, that cannot form the basis of a complaint. Among them are the following:

- Any complaint relating to other than a designated contract;
- Complaints against subcontract awards are generally not considered, except in very limited circumstances when the award is made by or for the government, such as when a contractor acts as a purchasing agent for the government;
- The Tribunal does not consider complaints involving matters which, under the law, are to be determined by others. For example, disputes over whether a firm meets the requirements of the Federal Contractors Program on Employment Equity are resolved by the Department of Human Resources Development;

- The Tribunal will generally not make a determination on a complaint when the matter involved is the subject of litigation before a court that has proper jurisdiction or when the matter has been decided by such a court. However, if the court so requests, the Tribunal can make a determination on the complaint;
- The Tribunal does not consider complaints involving performance of the contract, such as a contractor's entitlement to additional compensation or a government department's decision not to exercise its options.

6.2.5 HOW TO AVOID COMPLAINTS

Contracting Officers must ensure that they adhere to the policies and legislation as per the requirements in the different Trade Agreements, and therefore, would be able to avoid complaints from suppliers. Using common sense and judgement, evaluating the risks and determining the course of action in the event that complaints are submitted for review will assist you at looking for the potential problems at the planning stage and therefore avoid potential problems.

7. BID SOLICITATION (MERX, NPP, ACAN)

In order to achieve the major objectives of governmental purchasing, the method utilized is **bid solicitation**.

There are basically three methods of bid solicitation:

1. Request for quotation
2. Tender process
3. Request for proposal

It is the "request for quotation" method that is most commonly used in low-dollar value procurement where the total requirement can be clearly defined and the lowest responsive quotations can be accepted as representing best value. Quotations may be obtained by telephone, by facsimile, or more formally depending on the requirement. It is good practice to have verbal quotations confirmed in writing.

Bids must conform to the total requirement (quantity, technical requirement, pricing basis, FOB point, delivery, packaging, inspection, etc.) and must be recorded. The contracting authority should record the details of the quotation received/discussed over the phone using an internal form or FAX copy.

In order to comply with the Contracting Policy and encourage competition, a minimum of three (3) bids should be obtained.

7.1 REQUESTS FOR PROPOSALS (RFP)

The information package prepared to inform potential bidders of the intent to contract and to provide them with the information they need to prepare their bids, proposals or submissions.

The documentation typically contained in an RFP:

- Covering letter;
- Statement of Work (SOW), Specifications or Statement of Requirements (SOR).
- Requests for types of services and/or goods;
- Terms of reference (and appendices as applicable);
- Requirements for execution of legal documents;
- Proposal instructions;
- Standard Form of Contract; and
- Extracts from Treasury Board Travel Directive.

7.1.1 CONTENT

a) Covering Letter

Should contain the essential data, to ensure that potential suppliers do not miss important dates, however, with the advent of Electronic Tendering, covering letters are not used in the same fashion, they are often included within the background of the Notice of Potential Procurement :

Type of information that should be in the covering letter:

- Closing date for submitting bids
- Delivery place and instructions
- Format for the proposals
- Name of contact person
- Bidders conference, date, time and place;

b) Annexes

Contains all additional information that would be useful for understanding the requirement in addition to the Specification, SOW or SOR. For example, with informatics projects, technical details of physical configurations or specifications of software will be displayed in annexes.

- Selection criteria and weighting factors (mandatory to be in RFP)
- Specific content expected in the proposal: resumes, work plans, references, etc.
- Issues or questions that should be addressed: potential problems, strategies to deal with the issues, etc.
- Other specific conditions that the proposals must satisfy

7.2 SOURCING

For low-dollar value procurement, contract authorities are encouraged to utilize trade directories, supplier catalogues, telephone directories, previous contracting files, etc. to establish source lists. In addition, established source lists from Public Works and Government Services Canada can be utilized as they may have previously contracted for the same services. When the source list contains many firms, they should be pre-selected in rotation through the list, from procurement to procurement, in an equitable manner. Electronic media may be used to advertise in order to develop an appropriate list of suppliers or rotational selection of qualified individuals or firms by computer may be used.

8. Bidders' Conference

Potential Bidders are informed in the RFP (covering letter) that there will be a meeting of the resources involved in the contract management (contracting, technical and managerial authorities) with all interested bidders to review the RFP and address bidders' questions and concerns. All potential bidders must be advised of the results of the meeting, whether by phone or in writing, (preferably in writing- there is less opportunity for misinterpretation). It is recommended that minutes be kept and sent to all invited bidders, if it is on the Government Electronic Tendering Service, the minutes must be provided to the company and they will forward them to all those who have pulled the RFP documents.

As an aside, in construction contracts, the site visits are usually mandatory for a bidder to submit a tender, contracting officers can then include the bidders' conference at the same time, although they cannot be mandatory.

9. Managers' concerns:

-all bidders receive same information;
-roles and responsibilities are clear for all involved;
-manager could defend the whole RFP to senior management, Legal Services, etc.
-all uncertainties have been addressed and clarified;
-reasonable time is allocated to avoid undue rush;
-required commitments from 3rd parties have been secured.

APPENDIX "S"

STATEMENT OF WORK

SESSION 3
STATEMENT OF WORK (SOW)

1. INTRODUCTION

The requirements' definition phase of contracting involves the expression of an identified need, in terms suitable for the initiation of the contracting phase. Requirements definitions are, in varying degrees, a management responsibility depending on the type and complexity of the service requested. The more complex, special or unique the service, the greater need for the Manager to be responsible to define it. The SOW should be a stand-alone document that is easy to read and easy to understand. The SOW should identify the specific stages of the work, their sequence, their relationship to the overall work in general and to each other in particular. The type, magnitude and complexity of the work will determine the degree of detail required.

This information session will explore:

-The elements to include in a good SOW;
-The headings to structure the SOW;
-Contract value (when to indicate and when to rate);
-Basis of Payment; and
-Critical Contract Clauses.

2. STATEMENT OF WORK (SOW)

The requirement definition phase of service contracts consists primarily of a Statement of Work which should clearly describe the work to be carried out, the objectives to be attained and the time frame.

The SOW is a stand-alone document that should be structured logically and be easy to read and understand. ***The more clear that you can communicate what it is that you want/need done, the better the chance is that what you need will be successfully and fully delivered.***

It should be:

a) explicit about the client's requirements and the contractor's responsibilities so that questions of interpretation can be avoided; and

b) detailed enough to ensure that the client department receives the services or advice that it requires but, at the same time, flexible enough to permit innovation and initiative by the contractor in the interests of the client department.

The statement of work should identify the specific stages of the work, their sequence, their relationship to the overall work in general and to each other in particular. The type, magnitude and complexity of the work will determine the degree of detail required.

2.1 FUNCTIONS OF THE SOW

To be able to prepare a well-written SOW, it is usually required to :

- fully understand the nature of the project
- identify hidden deliverables and services
- uncover unclear or different expectations from users/ sponsors
- foresee problems and identify preventative or contingent actions
- clearly identify the skills and qualifications required to do the work

The following will be easier to write if the information is available:

- to determine and weigh the selection criteria
- to defend the bid evaluation strategy and the eventual choice of the contractor to contract review committees or unsuccessful bidders
- to assist suppliers to prepare better proposals and provide better information to assess each bid
- convey a competent and efficient image to contractors.

A well-written SOW provides the potential bidders with the information they require to:

- determine if they will bid for the requirement
- cost the work in terms of quantity and quality requirements
- put together a quality proposal
- how to best meet your requirements.

An inadequate SOW is a major problem with contracting. As stressed by experts, an inadequate, unclear or incomplete SOW will plague any project and will force contractors and contract managers to take additional time and resources to clarify issues. They often lead to disputes, cost overruns and time delays.

Troubleshooting and crisis management are "to be expected" consequences of inadequate SOW`s and inadequate contract/project planning.

Writing a good SOW takes time and is an iterative process.

Work descriptions or specifications must be defined in terms of clear outputs or performance requirements that will encourage and accommodate the use of the competitive process and result in best value in meeting the need.

A thorough need assessment is the basis for clear, concise, complete specifications (a statement of work (SOW)). Needs assessment has the following objectives:

-To clearly establish the link between the perceived need and the need for effective and efficient program implementation;
-To document the specific need and its environment; nature, quantity, quality, where and when;
-Quality and the desired performance level should be related to intended use.
-To support the rationale for priority setting;
-To specify the expected performance;
-To provide means to evaluate the effectiveness of the possible options in meeting the requirements and (during the contracting phase), to evaluate the respective qualities of the submitted bids.

Best value may be promoted if performance specifications are stressed; this avoids over-defining the requirement from a technical point of view.

A requirement defined in terms of detail will often result in legal liability for defects shared with the contractor. On the other hand, a requirement defined in terms of performance normally results in the liability borne by the contractor alone.

3. BASIS OF PAYMENT

Although at this stage the **Basis of Payment** should have already been decided, to be included in the RFP, it is occasionally possible, that the Basis of Payment has been left up to the bidders to propose and therefore may be **part of the evaluation or to be determined**, depending on the results of the bids. Therefore, the following is general information about the types of contract basis of payment which can be negotiated with the suppliers.

Fundamentally, there are two types of contract basis of payment used in the services environment:

firm price;
and
cost reimbursable.

In R & D work, there is often a direct link between the quality of the deliverable(s) and the amount of actual effort expended. Caution must therefore be exercised when employing a firm price or a cost reimbursable ceiling price in an R & D contract since the contractor might reduce the effort to avoid or reduce its monetary losses.

Two special variations of these types of contract bases of payment are commonly referred to as 'cost-shared' and 'price to be negotiated' (PTBN). The characteristics of each type of contract basis of payment, the proper conditions for their use, as well as, the advantages and the disadvantages of each are listed hereunder:

3.1 FIRM PRICE

"Firm price" definition: The total amount payable is a fixed sum. In such cases both parties agree prior to the award of the contract as to the price payable thereunder.

Characteristics

a) non-adjustable total price;
b) Greatest profit incentive to the contractor;
c) All financial and management risks associated with cost overruns rest with the contractor; and
d) Minimum administrative burden to both the Crown and the contractor.

Conditions for use

a) The work or performance specifications must be reasonably well defined;
b) The risks in performing the work can be estimated effectively;
c) The contractor is willing to accept all of the risks involved in performing the work; and
d) A definite basis for acceptance or rejection of the work can be established.

Advantages to the Crown

a) In the case of lowest competitive price, lengthy negotiations are eliminated which reduces the total procurement throughput time;
b) Budget management is simplified because the final contract cost is known in advance;
c) The contractor must exercise cost control on labor and overhead in order to maximize the profit;
d) The need to audit is much reduced;
e) When milestone payments are included, the contractor has more incentive to meet the delivery schedule; and
f) The post contract administrative burden is minimized.

Disadvantages for the Crown

a) If all contractual requirements are not clearly spelled out in the RFP/Statement of Work, the contractor may later try to treat them as extra work;

b) There is the increased possibility of receiving only a marginally acceptable quality of work either because the contractor underestimated the cost and reduced the level of effort in order to stay within budget, or there is no extra money available to improve or enhance the final product where this improvement could be made;

c) There is the problem that the contractor may purposely quote low on the initial requirement with the objective of becoming the sole source for future needs and recover part of the initial profit potential on the later work; and

d) There is difficulty in introducing changes once the contract has been let without an immediate negotiation coupled with the need to issue a contract amendment.

3.2 COST REIMBURSABLE

A "cost reimbursable" basis of payment is one under which the contractor is paid for its costs properly incurred in the performance of the contracted work and in accordance with an established set of terms and conditions described in the contract.

a) TO A LIMITATION OF EXPENDITURE

"Limitation of expenditure" definition: a condition incorporated into a contract which states the amount of monies that may be paid to a Contractor for the work/deliverables, at present, described in the contract. While the Contractor is not legally obliged to complete all the work within this limitation, the Contractor is expected to make its best effort to achieve this result. If, during the execution of the contract, the Contractor discovers that there are insufficient funds to complete the work, the Contractor must inform the Contracting Officer. This step is usually taken **four** months prior to the stated contract completion date or once 75% of the funds have been expended. The Scientific/Project Authority then has the option of providing additional funding or requesting the Contractor to complete the work to the extent that the current funding permits.

Characteristics

a) there is minimum incentive for the contractor to control labor hours and direct expenses; and
b) minimizes the financial risk on the part of the contractor.

Conditions for use

a) the work cannot be well defined or the volume is indeterminate;
b) the labor rates and overhead expenses/rates can usually be negotiated at a fixed level before contract award; and
c) the nature and extent of the work are not fully known and it would not be fair and reasonable to expect the contractor to bear all the financial risk.

Advantages to the Crown

a) small adjustments to the level of effort, direct expenses and profit margins do not involve lengthy negotiations; and
b) where necessary, allows a lot of flexibility for changing the work statement.

Disadvantages for the Crown

a) there is little incentive to reduce labor hours or direct expenses;
b) encourages extra work;
c) the funding of the work cannot be accurately forecasted since the final cost is not known in advance.
d) there is the increased possibility that the contractor will not meet the delivery schedule unless milestones are identified and incorporated in the contract;
e) substantial contract administration is required (close monitoring of the progress of work vs. expenses, processing many progress claims, settlement of minor disputes, etc.);
f) the post contract administrative burden is higher than in the case of a firm price; and
g) post contract audits usually have to be performed unless the contracting officer has a high degree of confidence in the contractor's method and accuracy of accounting.

b) WITH A CEILING PRICE

"Ceiling price" definition: a condition incorporated into a contract which states the maximum amount of monies that may be paid to a contractor for the work/deliverables presently described in the contract. The contractor will be paid, in accordance with the basis of payment, only those costs incurred. If the costs, as charged, reach or exceed the ceiling established in the contract, the contractor must complete the work and will receive no monies beyond this ceiling.

Characteristics

a) there is more incentive for the contractor to control labor hours and direct expenses than with a limitation of expenditure type of arrangement;
b) the majority of the management and financial risk rest with the contractor;
c) there is a high profit incentive to the contractor.

Conditions for use

a) the labor rates and the overhead expenses/rates can be negotiated at a fixed level;
b) the contractor has sufficient confidence in its technical, management and price proposals that the contractor suggests or is willing to accept a ceiling price;
c) where because of budget restrictions, specific funding cannot be exceeded; and
d) there is a strong possibility that the total price of the work may exceed the ceiling amount.

Advantages to the Crown

a) there is a strong incentive for the contractor to limit all costs within the budget;
b) budget management is simplified because the maximum final contract cost is known in advance; and
c) low risk for the Crown.

Disadvantages for the Crown

a) substantial contract administration is required;
b) there is the increased possibility of receiving only marginally acceptable quality of work either because the contractor underestimated the cost and reduced the level of effort in order to stay within budget, or there is no extra money available to improve or enhance the final product where this improvement could be made;
c) if all the contractual requirements are not clearly spelled out in the RFP/Statement of Work, the contractor may later try to treat them as extra work;
d) there is the problem that the contractor may purposely quote low on the initial requirement with the objective of becoming the sole source for future on needs and recover part of the initial profit potential on later work;
e) there is a difficulty in introducing changes once the contract has been let without an immediate negotiation coupled with the need to issue a contract amendment; and
f) post contract audits usually have to be performed unless the contracting officer has a high degree of confidence in the contractor's method and accuracy of accounting.

© **ILI Inc./AII Inc.-April 1999**

C) COST SHARING

Characteristics

A contract in which the contractor agrees to absorb part of the cost of the work by:

a) performing specific tasks without charge;
b) furnishing or making available to the Crown some contractor-owned or controlled resources without charge;
c) absorbing a percentage of the total cost;
d) absorbing some identified element of the total cost; or
e) any combination of the aforementioned items a) to d).

Conditions for use

a) a research and development type contract where the proponent has an excellent idea but lacks the full financial resources to develop it, and agrees to absorb part of the research costs;
b) when there is insufficient Crown funding to perform the work and the contractor agrees to share the cost; and
c) for some programs such as DIPP (Defense Industry Productivity Program) which normally requires the Contractor to share the cost.

Advantages to the Crown

a) the Crown and the contractor share the risks where a limitation of expenditure has been included in the contract;
b) there is good incentive to control costs where the contractor's contribution is high;
c) a ceiling can be applied to the Crown's share of the cost; and
d) the Crown receives greater value for the monies expended.

Disadvantages for the Crown

a) there is limited application;
b) detailed progress and cost control are required; and
c) the contracting officer must ensure that the contractor is fulfilling its obligations.

d) PRICE TO BE NEGOTIATED (PTBN)

Characteristic

a)- the labor, overhead and/or G & A rates or prices have not been firmed up at the time the contract must be awarded.

Condition for use

a)- the customer's department has requested that the work be started prior to the completion of labor, overhead and G & A rate or total firm price negotiations being completed. Such a request is normally based on the need to meet a specified commencement or delivery date. A PTBN basis of payment should only be used in a case of extreme urgency.

Advantages to the Crown

a) provides an early start to the work in order to meet delivery requirements;
b) permits the use of the client's budgeted funds within the fiscal year; and
c) extends the time available to finalize requirements and complete negotiations.

Disadvantages for the Crown

a) may give the contractor an edge during final negotiations;
b) the Crown is committed to the contractor and, therefore, the Crown's negotiating position is substantially weakened;
c) the final price is unknown, therefore, the budget is more difficult to manage; and
d) there can be increased contract administration since the person who approved the original PTBN contract must subsequently approve the negotiated firm rates or firm price and a contract amendment must be issued.

4. CONTRACT METHODS OF PAYMENT

The various methods of payment available in contracting are listed below, each has its own particular characteristics and in some cases should be used only in rare situations. They are briefly described as well:

Advance Payment - a payment made by or on behalf of the Crown under the terms of a contract **before** the performance of that part of the contract in respect of which the payment is made.

Costs Incurred - are costs allowable under the costing principles applicable to a particular contract.

Holdback - an amount withheld under a contract pursuant to section 35 of the Financial Administration Act to ensure the performance of the contract and also to avoid overpayments in relation to progress of work.

Lump Sum Payment - a single payment that is made following the acceptance by the inspection authority of all deliverables that were to be received from the contractor under the terms of the contract.

Milestone Payment - a method of making a progress payment which relates to a measurable/defined item or work package for which a price can be assigned with good probability that such assigned price will turn out to be within reasonable limits of predictive accuracy for the value of the work.

Progress Payment - a payment made by or on behalf of the Crown under the terms of a contract **after** the performance of the part of the contract in respect of which the payment is made but before the performance of the whole contract.

Time Payment - a method of making progress payments which provide for specified payments to become due at the times specified in the contract, subject to certification by the inspection and contracting authorities that progress of the work conforms to schedule. Alternatively, the term refers to the method of making progress payments based on physical progress of the work on a monthly basis as determined by the inspection and contracting authorities without any set monthly goals.

5. TERMS AND CONDITIONS (9624)

There are a variety of general and supplemental terms and conditions that apply to contracts depending on the type of service being procured. These terms and conditions, which have been reviewed and approved by legal counsel of the Department of Justice, are contained in the SACC manual. Key contractual clauses, as related to service contracts, included in these terms and conditions are: The status of the contractor, amendments and waivers, conduct of the work, replacement of personnel, inspection of the work, ownership of intellectual property and the termination for default or convenience provisions.

Condition	Description
Status of the Contractor	Contractor is not an employee of the public service.
Amendments and Waivers	Modifications must be agreed to and then incorporated into the contract. No waiver shall be valid and will not affect the enforcement of terms and conditions.

Conduct of the Work	Contractor states they are competent to do the work. Work will be done in a diligent manner and in accordance with specifications.
Replacement of Personnel	The services of persons named will be provided or replaced with persons of similar ability and attainment.
Inspections of the Work	Right to inspect, access, reject, require correction of the work at any time. The contractor will be informed of reasons of rejection and will not be relieved of the responsibility to complete the requirement.
Disclosure of Foreground Information, Contractor to Own and licensing provisions. Foreground Information, License Rights, Sale and Licensing of Foreground Information	Rights to intellectual property ownership
Default by the Contractor	Right to terminate the contract for default, contractor bankruptcy or insolvency.
Termination for Convenience	Right to terminate the contract or for any part of the work not completed.

The Contracting Officer is responsible for negotiating acceptable contract terms and conditions and for determining a fair and reasonable contract price. To avoid any loss of negotiation leverage power, it is critical that clients do not pre-negotiate with a contractor terms and conditions which the Contracting Officer could not later support based on established government contract regulations and policies.

The Standard Conditions and Clauses manual is available on the Government Electronic Tendering System.

6. Ownership of Intellectual Property

A new government policy on the ownership of intellectual property arising under contracts for goods and services, sponsored by Industry Canada, came into effect in December 1991. This policy promotes the commercialization and exploitation of intellectual property developed under government contracts **to vest with the Contractor**. The intent of this policy is to increase the technological capability of the Canadian industry and reasonable assurance of Canadian benefits i.e. market export opportunities, commercial exploitation of new products and services, job creation opportunities, etc.

Regardless of with whom the title to intellectual property vests, departments have a responsibility, and are accountable, for ensuring technology and intellectual property arising from R & D performed under the Crown contracts can be exploited by the private sector for commercialization. In the event title vests with the Crown, the granting of a license should be reasonably refused.

APPENDIX "T"

SELECTION METHODS AND BID EVALUATION

SESSION 4
SELECTION METHODS AND BID EVALUATION

1. INTRODUCTION

Client needs have been established and the Statement of Work has been reviewed. The next step is to determine the factors which will allow for the determination of the method of selection, bid evaluation and the criteria that can be used. Even though these questions have already been taken into consideration during the preparation of the Statement of Work, it is important to review the information, at this stage, to ensure that all the links between each of the steps in procurement have been completed.

It is imperative that the SOW be directly linked to the selection methods and the evaluation criteria. This is not only to ensure a logical evaluation of the proposals but also to ensure that the process is fair and equitable. This step in the process is often the subject of complaints to the Canadian International Trade Tribunal. The following steps will provide the suppliers/contractors with a road map to present their proposal and ensure that the evaluating team can easily measure if the proposal meets the requirements and which one is the best value for the contract award.

This information session will review:

-Selection Methods;
-Evaluation Criteria; and
-Examples of evaluation Criteria.

2. Summary of the Bid Evaluation Process

Procurement personnel should consider the use of a Bid Evaluation Plan, to record on file the proposed procurement strategy and the bid evaluation process that will be used to select a contractor to satisfy the client's requirement. The bid evaluation plan should be developed in consultation with and agreed to by the Client Representative responsible for the evaluation of the bids.

The Evaluation Plan should generally address all requirements that should be reflected in the bid solicitation document prior to its issue. The evaluation plan shall identify all the mandatory requirements and weighted (point-rated) criteria to be evaluated, their relative weighting and how they will be scored. The Contracting Authority, in consultation with the Client Representative, shall determine the evaluation method and criteria and the contractor selection method which is most appropriate for the procurement.

In the case where changes are made to the requirement during the bid solicitation stage, Bidders shall be informed of these changes, prior to the bid closing date and in sufficient time for Bidders to address these changes in their bid proposal. There shall be no changes to the contractor selection method and evaluation plan after the bid
Closing date.

Bids must be evaluated in strict accordance with the Evaluation Plan. Bid evaluations shall be carried out jointly between the Contracting Authority and the Client Representative, either together to reach a consensus as each proposal is evaluated or individually where everyone receives the package and then meet later to establish a consensus.

The Contracting Authority shall be responsible for providing the Bid Evaluation Team with general guidance on the objectives and conduct of the bid evaluation process and to ensure that the evaluation is fair and equitable to all bidders.

Once the evaluation is completed, a contract shall be recommended in accordance with the specified contractor selection method, **provided at least one responsive bid has been identified as representing fair value to the Crown.**

The most common contractor selection methods used in PWGSC consist of the following: These are described in more details in this section.

1) lowest responsive technical proposal;
2) lowest responsive cost-per-point technical proposal;
3) highest rated responsive technical proposal within a stipulated maximum financial budget;
4) highest combined rating of technical merit and price; and,
5) Variations of the above contractor selection methods.

Unsuccessful Bidders shall be notified of the contract award (or non-award), and notes of the bid evaluation shall be maintained on file to ensure an audit trail or in the event that Bidders request a formal bid debriefing.

3. SELECTION METHODS AND EVALUATION CRITERIA

3.1 GUIDING PRINCIPLES

Bid evaluation criteria are to developed for each particular requirement by exercising good judgement and by observing the following guiding principles:

- evaluation criteria should be fully understood and respected;
- evaluation criteria shall be established prior to issuing the bid solicitation document;
- evaluation criteria should contribute to achieve optimal consideration of performance, time and cost;

- evaluation criteria must accurately identify all of the performance elements considered to be significant to the success of the specific requirement;

- evaluation criteria shall address established government national socio-economic policies, within the limits imposed by trade agreement obligations and other national programs;
- extreme care and sound judgement are to be exercised to avoid misunderstandings, and delays;
- evaluation criteria must measure both the competence of the bidder and the worth of the bidder's particular technical approach;
- all evaluation criteria must be appropriate to the requirement, and clearly formulated;
- the bid evaluation ratings must reflect the relative importance of the criteria;
- the evaluation criteria and their weighting must be appropriate to each requirement: ensuring no unnecessary emphasis on certain items, not appearing to favour a particular bidder and ensuring fair competition;
- the contractor selection method must be clearly identified, ensure fair competition and equitable treatment of all bidders;
- evaluations shall ensure that all bidders are subjected to the same conditions and considerations;

- care should be exercised not to request unreasonable amounts of detailed information; and,

- no element of price should have any bearing on the technical evaluation of the bids.

3.2 SELECTION SYSTEM

3.2.1 FUNCTION

Once the requirements are defined at the planning stage and the SOW is developed, most of the data required to determine the quality and resources required from the contractor are available since risks relating to the contractor and risks from the contract environment impacting on the contractor have been identified.

If managers are not required to use a pre-set, departmental list of criteria, they develop the needed criteria on the basis of:

-**what is needed** in terms of knowledge, skills, experience and abilities?
-**what is needed** in terms of facilities and administrative support?

The selection and the criteria methods that will be used must permit the evaluation committee to ascertain that the:

-contractor has the necessary capacity to carry the work, fulfil the need;
-proposed approach will likely produce the desired results;
-costing is realistic and the submitted fees are reasonable, and
- that the manner in which they potential suppliers were evaluated is directly linked to the SOW.

3.2.2 CRITERIA

It is a simple matter of selecting the ones applicable given the project's specific requirements.

The evaluation criteria, in order to be effective, must have the following characteristics:

- **objective:** not subject to diverging interpretation
- **relates to the SOW:** as with staffing, all key elements of the SOR must be covered by the selection criteria and system
- **realistic:** given the contract nature and/or value
- **measurable:** have sub-criteria on the basis of which to evaluate the criterion
- **economical to use, efficient**
- **justifiable:** make sense, can withstand challenges, both technical and "legal"

Determining the selection system that will be used to screen out the best valid proposal involves two sets of strategic decisions: The criteria (and the sub-criteria) and the system in which the contract manager will apply the criteria.

3.2.3 METHODS

a) Lowest Responsive Technical Proposal:

(Mandatory criteria, may include rated criteria and lowest valid bid):
Typical selection system for the procurement of goods and low complexity services requirements:

- objective, fair, easy to justify;
- need is clear, objective criteria, difficult to use for professional services, good for low "technical expertise projects".

b) Mandatory, weighted criteria and best overall value bid:

(Mandatory, rated criteria and may result in cost per point)
(Some variations can be used, these will be discussed in the classroom)
Used when (a) is impossible or simply meeting minimum requirements is not sufficient:

- plays value against costs, possibly results in a "cost-per-point" tabulation or rate the price proposal;
- however, caution should be exercised in using the "cost-per-point when the value of one point is -minimal, on multi-million dollar contracts, this can be very difficult to justify.
- should use a definite maximum number of points and measure each weighted criterion against each others, interrelated balancing.

c) Highest technical merit bid:

(With stipulated budget or ceiling and ratio between price and technical merit rating) Usually used in an RFP where the requirements are difficult to define and the budget can indicate a level of effort for the supplier or the client is looking for an innovative solution and therefore wants creative solutions from the bidders, the ceiling budget, provides guidelines as to the level of effort and the limited resources within which the solution can be developed. The evaluation will be based on the best technical merit for the given price;

- client more likely to receive an innovative and creative solution, sometimes brings out new suppliers.

c) Mandatory and weighted criteria, and price is the final determining factor:

Used instead of (b) when the technical value is equal in importance with the price proposal for the evaluation. It provides an opportunity to receive many proposals and eliminate the weaker ones early in the process, the weighted criteria, then is rated and all suppliers meeting the passing mark will be considered on an equal basis for the Financial Proposal, where the lowest price will be the final determining factor.

The evaluation committee must reach a consensus on the nature of the proposal, the evaluation criteria, the evaluation methods, the weighted values and importance of the criteria before the RFP is sent out. The parties in the discussions must come to an agreement in order to complete the selection grid before the RFP. Otherwise there is the risk of having to interrupt the process if criteria or weights have to be changed. These discussions will contribute to the full understanding of the project and its requirements and to a cooperative relationship between the client and the Contracting Officer.

Bids evaluation can be more than a one-step process, like:

-pre-qualification of bidders
-interview of best suppliers
-additional data to be provided by best suppliers

4. BID EVALUATION PLAN

The purpose of the Bid Evaluation Plan is to clearly document on the procurement file the bid evaluation criteria, their respective weighting factors, the scoring grid against which these evaluation criteria will be evaluated and the scoring method that will be used to determine which bid best meet the requirement. This plan is established in consultation and with the agreement of the Client Representative, prior to issuance of the bid solicitation document.

The first step in developing the Bid Evaluation Plan is to identify the main criteria for evaluation. These areas should address RFP and Statement of Work (SOW) requirements separately. The evaluation plan must be reflective of the bid contractor selection method used.

The following are suggested **RFP items** to be evaluated and which should be covered in the evaluation plan:

- Delivery;
- RFP Terms and Conditions;
- Mandatory Requirements;
- Technical Proposal Requirements
- Management Proposal Requirements
- Organization/Management (Company & Project);
- Key Management Personnel (Qualification & Experience);
- Compliance with the Statement of Work (SOW)
- Compliance with the Certifications

The Evaluation Plan will be the basis for auditing the fairness of the bid evaluation process. The evaluation plan must be developed in concert with the RFP to assure consistency and completeness between the two documents. The details of the evaluation plan will be for Departmental internal use only.

In exceptional circumstances, the proposal evaluation plan may be amended after issue of the RFP, such as when an amendment to the SOW is issued during the proposal solicitation period. But in no circumstance shall the proposal evaluation plan be changed after the proposal closing date. The Evaluation Plan should be retained on the Contract File.

5. EVALUATION METHODS

5.1 MANDATORY CRITERIA

Mandatory criteria are described as those that identify the (minimum) requirements that are absolutely essential (indispensable) to the successful completion of the work, and to the compliance with the mandatory terms and conditions of the solicitation and resulting contract. Bidders must be able to provide evidence of meeting mandatory criteria at time of bidding.

Mandatory requirements are evaluated on a simple pass/fail basis. The treatment of mandatory requirements in any procurement process is very stringent. This is usually conveyed to prospective bidders in the solicitation documents by inserting provisions which indicate clearly the very serious consequences on bidders for failing to meet essential conditions, i.e. non-compliance of proposal, the effect of which precludes any further consideration for award.

Examples of Mandatory Criteria

- Financial Stability of the Bidder
- Licensing Requirements
- Essential Performance Characteristics of Equipment
- Essential Minimum Qualifications of Personnel
- Budget Limit
- Delivery Deadline
- Compliance with Technical Requirements
- Compliance with Certifications

Evaluators should not confuse technical requirements in the SOW with mandatory requirements listed in the RFP. During the proposal solicitation, the Supplier or Vendor can only agree to meet technical requirements, evidence that these requirements have actually been fulfilled can only be done as a deliverable to the contract.

Because of their importance, mandatory requirements should be grouped together and highlighted in the RFP. Mandatory requirements are not rated and therefore need to be separated from point rated requirements. Mandatory requirements shall not be changed once the RFP has been closed.

5.2 WEIGHTED OR POINT RATED CRITERIA

Point rated criteria can be used to establish the minimum requirements that a bid must meet to be considered a valid and responsive proposal. Point rated criteria identify those elements that can be measured (evaluated) on a variety of characteristics to determine the relative technical merit of each proposal. Point rated criteria identify value-added factors, over and above those which will contribute to the satisfaction of the minimum requirements, which will provide the means to assess each individual proposal and distinguish it from each of the other proposals.

Evaluation criteria can be subject to both a mandatory and a point-rated evaluation system. If point-rated criteria are subject to a passing mark, the passing mark will establish the mandatory minimum level of this point rated criteria. For example. it could be mandatory for a bidder to have previous experience in a specific area of expertise and then, the level of experience that exceeds the minimum mandatory criteria can be subject to a point-rating.

Examples of Weighted or Point-Rated Criteria

Technical Proposal	
Criteria	**Sub-Criteria**
1. Strategy, Approach, Methodology	- Understanding of the Project Scope and Objectives - Recognition and Solution of Direct and Peripheral Problems - Attainment of Client's Expectations - Value of Innovation and/or Proposed Improvements - Demonstration of Expertise - Use of Human and Material Resource - Definition of Detailed Task List

Management Proposal	
Criteria	**Sub-Criteria**
2. Management Team	- Project Manager and Team Members academic qualifications, abilities and direct relevant previous experience on similar types of work and projects - Team Organization - Staffing Ratio/Level of Effort - Back-up Resources
3. Firm's Experience	- Proven Experience with Similar Projects - Past Performance Record - Corporate Structure and Organization
4. Project Management	- Scheduling of Work and Provision of Realistic and Complete Time Estimates - Control of Time and Quality - Reporting and Debriefing Arrangements - Management Control System
5. Facilities and Equipment	- Facilities and Systems - Availability of Equipment - Availability of Spare Parts - Maintenance Arrangements - After Sale Service/Warranty

5.3 DESIRABLE CRITERIA

Desirable criteria are performance or characteristic elements that would be considered nice to have but are not considered critical or essential for delivery of the goods or performance of the services i.e. nearby service depot office, different colour options for an item, etc. Consequently, desirable criteria **shall not** be used since they are not essential performance or characteristic elements, and they do not necessarily add value to the goods or services being offered. **The use of such terminology only serves to confuse the contractor who may believe that providing desirable characteristics in a proposal may influence the final decision, which of course, it cannot.**

5.4 TECHNICAL MERIT

Technical can be evaluated by developing results oriented requirements and requesting the supplier to provide innovative solutions beyond the mandatory and weighted criteria. The suppliers will not necessarily be eliminated, depending on the type of requirement, however, it provides an additional opportunity for bidders to demonstrate value-added benefits and still keep the prices at a competitive level.

For example, the suppliers would be asked to demonstrate how they can improve on the mandatory and weighted criteria through the following evaluating criteria, usually at least two or more can be requested;

- cost savings to the Crown, beyond pricing structure in RFP;
- improved time and schedule deliverables;
- improved quality relative to the requirements, not simply additional features;
- any other benefits which the Crown may derive from the additional benefits.

6. BID EVALUATION AND SUPPLIER SELECTION

The purpose of creating a Bid Evaluation Matrix is to identify in the RFP the main areas to be evaluated and to identify the evaluation criteria and weighting values to be applied to each of these main areas. The Bid Evaluation Matrix provides, in more detail, an item by item breakdown of the rated requirements to be evaluated.

Example of point-rating allocation:

Technical Proposal: maximum of	60 points
Financial Proposal: maximum of	40 points
Total :	100 points

The **highest technically scored proposal** is allocated the maximum points of 60 and the other technical proposals are prorated accordingly. The **lowest priced technically responsive proposal** is allocated the maximum points of 40 and the other price proposals are prorated accordingly. The highest total score when adding the technical points and the price points is considered as the proposal representing best value.

Example of Best Value Determination -

Highest Combined Rating Technical Merit (60%) and Price (40%)

Bidder	**Bidder 1**	**Bidder 2**	**Bidder 3**
Technical Points	88	82	76
Price Quoted	$60,000	$55,000	$50,000

Calculation	Technical Points	Price Points	Total Points	Rank	$ / Pts	Rank
Bidder 1	$\frac{88}{88}$ X 60 = 60.00	$\frac{50}{60}$X40= 33.33	93.3	1	$681.82	3
Bidder 2	$\frac{82}{88}$ X 60 = 55.91	$\frac{50}{55}$X40= 36.36	92.3	2	$670.73	2
Bidder 3	$\frac{76}{88}$ X 60 = 51.82	$\frac{50}{50}$X40= 40.00	91.8	3	$657.89	1

The same example using **Technical Merit (50%) and Price (50%)**

Bidder 1	50.00	41.67	91.67	3
Bidder 2	46.59	45.45	92.05	2
Bidder 3	43.18	50.00	93.18	1

The same example using **Technical Merit (40%) and Price (60%)**

Bidder 1	40.00	50.00	90.00	3
Bidder 2	37.27	54.55	91.82	2
Bidder 3	34.55	60.00	94.55	1

Care should be taken when establishing the weighting of the technical and price aspects when using this selection method. As indicated in the following Table, the premium being paid in the case of a ratio of 60% vs. 40% when compared to 40% vs. 60% is substantial. The contracting officer should understand the effect a minor 5% variation between the technical and price will have on the premium.

It should be noted that in this example the price per point would result in the same supplier being awarded the contract as the ratings of the 50%-50%

©

©

APPENDIX "U"

CONTRACT PERFORMANCE EVALUATION REPORT

Sample Form

CLIENT END-OF-CONTRACT EVALUATION OF CONTRACTOR PERFORMANCE AND SCIENCE CONTRACT ADMINISTRATION SERVICE

PLEASE RETURN THE COMPLETED SURVEY FORM TO:
Public Works and Government Services Canada (PWGSC)
Science Directorate
Attention: Director's Office
Place du Portage, Phase III, 12C1
Hull, QC K1A 0S5
Fax#: (819) 956-5165

PWGSC File No.: 09SQ.23440-4-1454
Client Dept.: CANMET/AED
Project Title: DEVELOPMENT OF THE BOMBARDIER INC. CANADAIR SOLAR WALL PROJECT
Contractor: BOMBARDIER INC., CANADAIR, DIV. FABRICATION
Contract Value: $2,341,385.00

Please circle the appropriate digit and support all negative responses by comments. (See next page for further details on each question)

			IMPORTANCE OF SERVICE			SERVICE RECEIVED
CONTRACTING ACTIVITY		N/A	NOT IMPT	IMPT	VERY IMPT	POOR EXCEL-LENT
CONTRACTOR PERFORMANCE	1a) - DELIVERY					1 2 3 4 5
	1b) - QUALITY OF THE WORK					1 2 3 4 5
	1c) - SUPPLIER/CLIENT RELATIONSHIP					1 2 3 4 5
	1d) - VALUE FOR MONEY					1 2 3 4 5
	1e) - OVERALL SATISFACTION					1 2 3 4 5
PWGSC CONTRACT ADMINISTRATION SERVICE	2a) - MONITORING COST, DELIVERY AND TECHNICAL PERFORMANCE					1 2 3 4 5
	2b) - PROBLEM RESOLUTION					1 2 3 4 5
	2c) - CONTRACT CLOSE OUT					1 2 3 4 5
	2d) - OVERALL SATISFACTION					1 2 3 4 5

Any other comments? (Add extra pages as required)

Completed By:Phone #: Date:

Would a meeting/presentation be of value to you/your group? YES_____ NO_____

SAMPLE QUESTIONS:

The following provides some details relating to the survey questionnaire:

1) CONTRACTOR PERFORMANCE

(a) DELIVERY: Did the Contractor deliver all of the deliverable items (disclosures, reports, prototypes) stipulated in the contract? Did the Contractor adhere to schedules? Were all Crown assets handled in accordance with the terms of the Contract?

(b) QUALITY OF THE WORK: Are you satisfied with performance of the contractor in terms of achievement of objectives and quality of work ? Did the Contractor identify an innovative solution to a problem? Do you foresee any spin-off benefits in terms of new knowledge or increased productivity, any patentable technology, or any follow-on work?

(c) SUPPLIER/CLIENT WORKING RELATIONSHIP: Were you regularly informed of the status of the work? Did the Contractor's personnel provide timely and professional assistance in resolving problems ? Were accurate claims and supporting documentation submitted in accordance with the terms of the Contract?

(d) VALUE FOR MONEY: Did the Contractor provide good value for money? Was the level of effort provided commensurate with the Contract value? Were cost-overruns incurred to complete the work? Did the Crown realize substantial savings as a result of the work carried-out by the Contractor? Was the work completed within budget?

(e) OVERALL SATISFACTION: What is your overall assessment of satisfaction with the contractor's performance? Should you have a further requirement, would you hesitate to use the services of the contractor?

2) PWGSC CONTRACT ADMINISTRATION SERVICE

(a) - MONITORING COST, DELIVERY AND TECHNICAL PERFORMANCE: Was contract administration handled reasonably (e.g. fair decisions) and responsibly (i.e. B.F.'s conducted to monitor progress) by the PWGSC contracting personnel? Were contract amendments handled in a timely fashion ? Was the level of claim verification, cost monitoring, and progress status reports considered adequate and appropriate for the work? Were contract price adjustments, schedule and other Contract revisions discussed agreed-to, and followed-up by the contracting personnel?

(b) - PROBLEM RESOLUTION: Did the PWGSC contracting personnel provide, when required, timely advice, interpretation and assistance in preventing and resolving contractual problems?

(c) - CONTRACT CLOSE-OUT: Did the contracting personnel make all necessary cost or audit adjustments to the final Contract price? Did they provide assistance in the final delivery of deliverable items (ie. Final Report, Crown assets, etc.). Was the disclosure certification of intellectual property obtained from the Contractor and communicated to you?

(d) - OVERALL SATISFACTION: Was contract administration handled reasonably (ie. fair and responsible decisions made by the contracting personnel)? What is your overall assessment of satisfaction with PWGSC contracting personnel performance? Should you have another requirement to be contracted, would you continue to request the services of PWGSC contracting personnel?

CLIENT END-OF-CONTRACT EVALUATION OF CONTRACTOR PERFORMANCE AND SCIENCE CONTRACT ADMINISTRATION SERVICE

PLEASE RETURN THE COMPLETED SURVEY FORM TO:
Public Works and Government Services
Canada (PWGSC)
Science Directorate
Attention: Director's Office
Place du Portage, Phase III, 12C1
Hull, QC K1A 0S5
Fax#: (819) 956-5165

PWGSC File No: 09SQ.23440-4-1454
Client Dept: CANMET/AED
Project Title: DEVELOPMENT OF THE BOMBARDIER INC. CANADAIR SOLAR WALL PROJECT
Contractor: BOMBARDIER INC., CANADAIR, DIV.
Contract Value: $2,341,385.00

Please circle the appropriate digit and support all negative responses by comments. (See next page for further details on each question)

			IMPORTANCE OF SERVICE			SERVICE RECEIVED				
CONTRACTING ACTIVITY		N/A	NOT IMPT	IMPT	VERY IMPT	POOR				EXCEL-LENT
CONTRACTOR PERFORMANCE	1a) - DELIVERY					1	2	3	4	5
	1b) - QUALITY OF THE WORK					1	2	3	4	5
	1c) - SUPPLIER/CLIENT RELATIONSHIP					1	2	3	4	5
	1d) - VALUE FOR MONEY					1	2	3	4	5
	1e) - OVERALL SATISFACTION					1	2	3	4	5
PWGSC CONTRACT ADMINISTRATION SERVICE	2a) - MONITORING COST, DELIVERY AND TECHNICAL PERFORMANCE					1	2	3	4	5
	2b) - PROBLEM RESOLUTION					1	2	3	4	5
	2c) - CONTRACT CLOSE OUT					1	2	3	4	5
	2d) - OVERALL SATISFACTION					1	2	3	4	5

Any other comments? (Add extra pages as required)

Completed By:Phone #:

Date:

Would a meeting/presentation be of value to you/your group? YES_____ NO_____

SAMPLE QUESTIONS:

The following provides some details relating to the survey questionnaire:

1) CONTRACTOR PERFORMANCE

(a) DELIVERY: Did the Contractor deliver all of the deliverable items (disclosures, reports, prototypes) stipulated in the contract? Did the Contractor adhere to schedules? Were all Crown assets handled in accordance with the terms of the Contract?

(b) QUALITY OF THE WORK: Are you satisfied with performance of the contractor in terms of achievement of objectives and quality of work ? Did the Contractor identify an innovative solution to a problem? Do you foresee any spin-off benefits in terms of new knowledge or increased productivity, any patentable technology, or any follow-on work?

(c) SUPPLIER/CLIENT WORKING RELATIONSHIP: Were you regularly informed of the status of the work? Did the Contractor's personnel provide timely and professional assistance in resolving problems ? Were accurate claims and supporting documentation submitted in accordance with the terms of the Contract?

(d) VALUE FOR MONEY: Did the Contractor provide good value for money? Was the level of effort provided commensurate with the Contract value? Were cost-overruns incurred to complete the work? Did the Crown realize substantial savings as a result of the work carried-out by the Contractor? Was the work completed within budget?

(e) OVERALL SATISFACTION: What is your overall assessment of satisfaction with the contractor's performance? Should you have a further requirement, would you hesitate to use the services of the contractor?

2) PWGSC CONTRACT ADMINISTRATION SERVICE

(a) - MONITORING COST, DELIVERY AND TECHNICAL PERFORMANCE: Was contract administration handled reasonably (e.g. fair decisions) and responsibly (i.e. B.F.'s conducted to monitor progress) by the PWGSC contracting personnel? Were contract amendments handled in a timely fashion ? Was the level of claim verification, cost monitoring, and progress status reports considered adequate and appropriate for the work? Were contract price adjustments, schedule and other Contract revisions discussed agreed-to, and followed-up by the contracting personnel?

(b) - PROBLEM RESOLUTION: Did the PWGSC contracting personnel provide, when required, timely advice, interpretation and assistance in preventing and resolving contractual problems?

(c) - CONTRACT CLOSE-OUT: Did the contracting personnel make all necessary cost or audit adjustments to the final Contract price? Did they provide assistance in the final delivery of deliverable items (ie. Final Report, Crown assets, etc.). Was the disclosure certification of intellectual property obtained from the Contractor and communicated to you?

(d) - OVERALL SATISFACTION: Was contract administration handled reasonably (ie. fair and responsible decisions made by the contracting personnel)? What is your overall assessment of satisfaction with PWGSC contracting personnel performance? Should you have another requirement to be contracted, would you continue to request the services of PWGSC contracting personnel?